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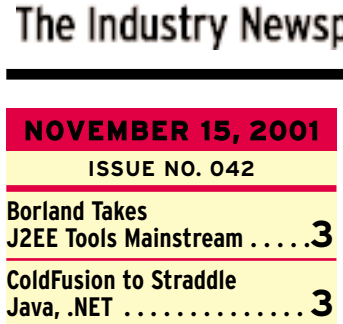

Enterprise Java Comes of Age 22

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WESTSIDE STORY: EX-MICROSOFT VISIONARIES CREATE HOSTED IDE

BY EDWARD J. CORREIA

About a year ago, a small group of developers quietly resigned from their jobs at Microsoft Corp. to seek their fortunes elsewhere. Through their privately funded Westside Corp., their idea was to create a development environment unlike any other—one that would simplify the task for enterprise developers building database-driven Web applications.

The defectors included Mark Igra, author of Visual Basic 1.0 and Visual Basic for Applications; Matthew Ballew, who developed Jet, the engine behind Microsoft's Access relational database; and former Microsoft bigwig Paul Maritz, whose headline-grabbing resignation last year from his position as group vice president of the Platform Strategy and Developer Group sent ripples though the company's upper management.

What they created at Westside was HotRAD 2.0, a hosted development environment for building database-driven Web sites that, according to company CEO George Snelling, is unique among its peers.

Formerly a group program manager for Microsoft Office and lead designer for Access and Visual InterDev, Snelling described his new company's flagship as middleware. "It's a piece of middleware that sits on the Microsoft stack and accesses and

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Rational Adds ProjectConsole To Latest Suite

Management tool uses portal to link model to requirements, tests, metrics

BY DAVID RUBINSTEIN

Rational Software Corp. is entering the project management space this week with the release of its new ProjectConsole portal application. ProjectConsole, which the company calls the centerpiece of the seventh revision of the Rational Suite, can be used to create a project Web site and includes metric assessment tools to quantify the progress of a software project, according to Dave Locke, Rational's director of product marketing.

"People only have to work the way they have, with Rose, ClearQuest and Test Studio on a day-to-day basis, and with ProjectConsole can establish a base line of metrics that can be analyzed," Locke said. "This is the piece that ties [the Rational Suite] together by spanning the [development] life cycle."

ProjectConsole ties the Rational Suite together, says Locke.

The server-side application can be used to build the project portal and uses templates to organize artifacts for any given project and create hyperlinks. For example, a developer working in a Rose model can use ProjectConsole to hyperlink the model to requirements, tests and all the different artifacts related to the project, and then publish it to the portal, Locke explained.

A Metrics Dashboard presents a graphical view of where the project is at during the entire life cycle, and comes with 10 metrics out of the box so users can get up and running right away, he said. The tool implements a set of software agents

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Few New Insights at Microsoft PDC

Show focused on Windows XP, .NET initiatives

BY ALAN ZEICHICK

LOS ANGELES — This smoggy city was home to Microsoft Corp.'s Professional Developers Conference 2001, and any hopes of new insights into the company's strategies were lost in the atmospheric haze. Although well attended by roughly 6,800 students and vendors, according to the company, Microsoft focused primarily on demonstrating how to build Web services on .NET initiatives and promoting its Windows XP client operating system.

During the week of the PDC in late October, Microsoft also shipped Windows XP's home and professional versions, as well as version 4.0 of its set of XML Core Services, and the second release of its SQLXML add-in for SQL Server 2000. At the show, the company delivered the release candidates for Visual Studio.NET and the .NET Framework, but still declined to commit to actual release dates for the finished products. The company also provided preliminary SDKs for its .NET Compact Framework for Windows CE, .NET My Services (a package of Web services previously referred to as HailStorm), Tablet PC and the Office XP Web Services Toolkit.

SD Times Photo: Alan Zeichick

Bill Gates linked Web services, Passport, .NET and Windows XP.

At the PDC itself, there were no surprises. Chairman Bill Gates' keynote address never mentioned the company's recent controversial move to embrace the Java programming language with Visual J#.NET, sticking instead to safe topics regarding XML Web services, Windows XP, Visual Studio.NET, Microsoft Office Web services extensions and the new Tablet PC hardware platform.

The dominant theme was that Web services represent a new paradigm for distributed computing, and one that melds

► continued on page 8

.NET COMES TO WINDOWS CE

BY EDWARD J. CORREIA

Microsoft Corp. is taking another pass at attracting enterprise embedded developers with the .NET Compact Framework, announced at its Professional Developers Conference 2001 in Los Angeles last month. The company unveiled preview versions of the new runtime environment for Pocket PC, and Smart Device Extensions for Visual Studio.NET, which together aim to let developers use a single IDE to target devices ranging from servers to Pocket PCs.

According to Steven Lees, Microsoft's product manager for .NET Compact Framework, the new software puts mobile device development capabilities within

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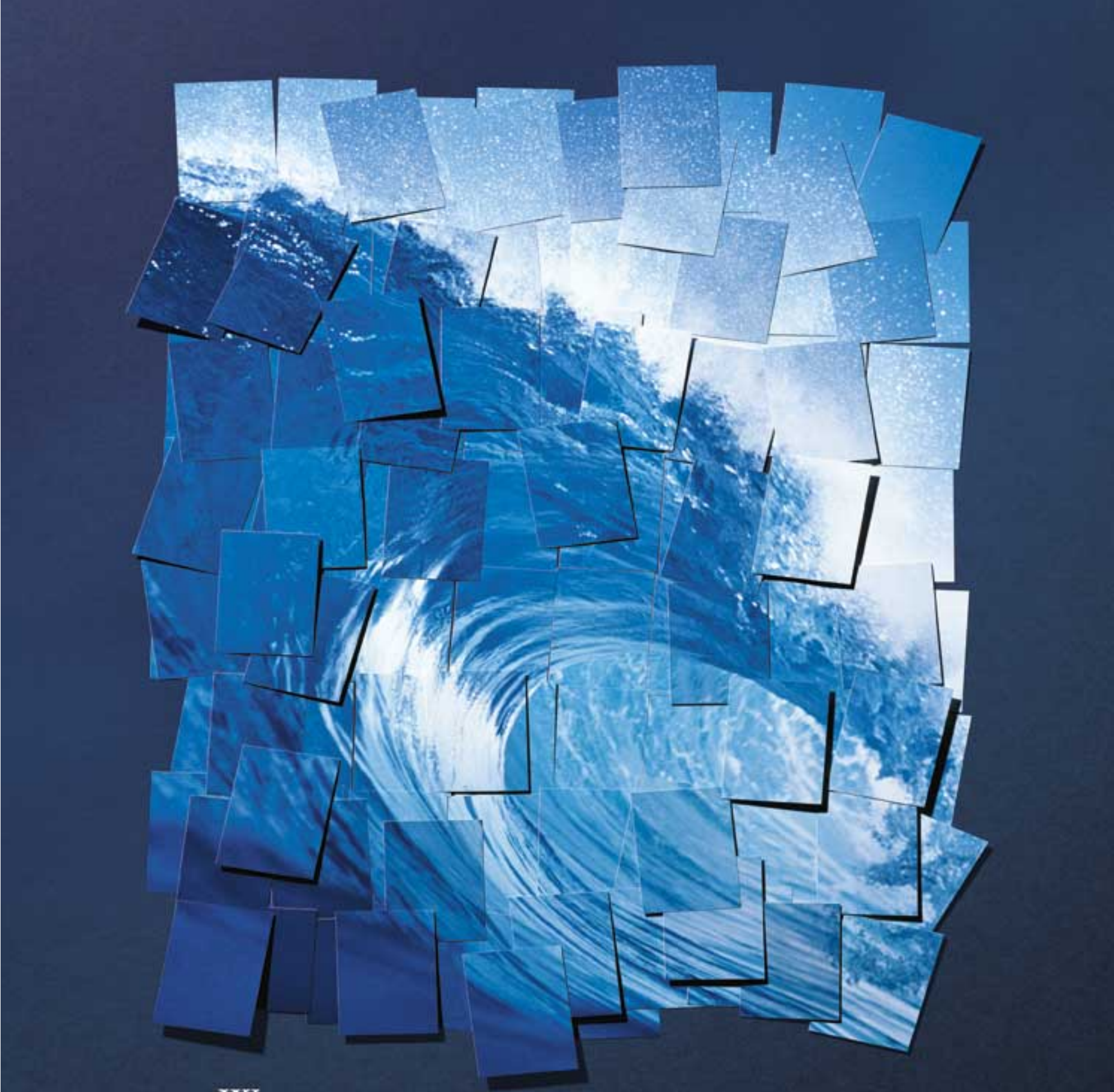

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SOFTWARE

Borland Takes J2EE Tools Mainstream

Syncs release of JBuilder, Enterprise Studio; creates new app server suite

BY ALAN ZEICHICK

Borland Software Corp. is swinging for the fences—the Java fences, that is. Although best known for its C++ Builder and Object Pascal-based language tools (Delphi and Kylix), the company has recently revamped both its Java application server and development tool suites, and for the first time has synchronized the products' releases.

That's a deliberate strategy, said Frank Slootman, vice president of software solutions, who said that the company's previous policy of staggering its Java software launches only confused customers and led to compatibility problems. Now, he said, Borland is committing to a twice-per-year simultaneous refresh of its tools and app server software, timed for late spring and late fall.

According to Slootman, the theme of the new releases is "Taking the J2EE Platform Mainstream," and to that end, Borland launched an updated version of its Enterprise Studio and a new deployment bundle called Enterprise Server last week.

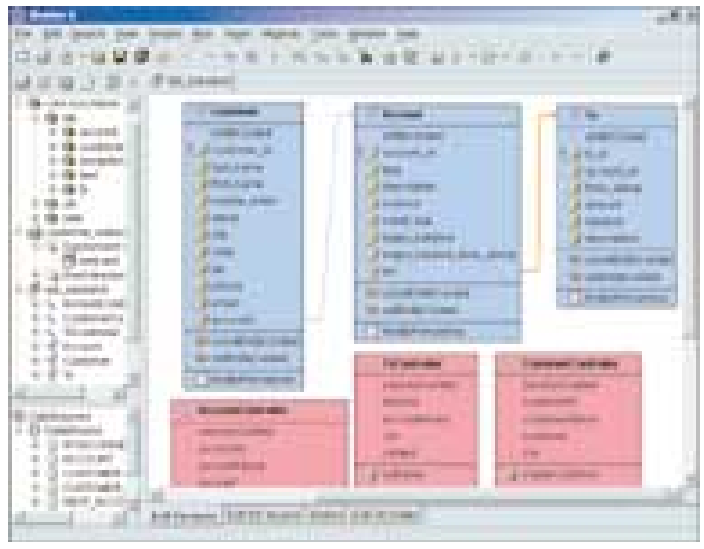
A challenge facing the Java industry, Slootman said, is that 90 percent of applications currently being developed are servlets and Java Server Pages, while only 10 percent are Enterprise JavaBeans. Borland's prediction is that by 2003, EJBs will constitute 40 percent of applications being developed and deployed, and that's the market the company is targeting.

The new version of Enterprise Studio for Java, promised to be available by Nov. 30, contains four products. As before, it includes Borland's JBuilder, Rational Software Corp.'s Rose and Unified Process best practices framework, and a development-only version of Borland's application server. New for this release is the inclusion of Macromedia Inc.'s Dreamweaver UltraDev Web development software.

Other than the inclusion of Dreamweaver UltraDev, the key product change in the Enterprise Studio bundle is the updated JBuilder, said Axel Kratel, product manager for Java Solutions. The new JBuilder 6, also announced last week, now includes a graphical EJB designer, he said, "that makes EJBs accessible by the masses," and can create entity, session and message beans visually, and relate the different types of beans to one other within the IDE. JBuilder, he added, is also the first version of the Java IDE that can consume and publish Web services.

In addition to being able to deploy applications to Borland's AppServer, BEA Systems Inc.'s WebLogic and IBM Corp.'s WebSphere, Kratel said, the updated JBuilder can now deploy to iPlanet's application server.

Borland will be offering several versions of JBuilder 6, with pricing ranging from $54.95 to $2,999 per developer seat. The Enterprise Studio for Java suite will be priced at $4,699 per developer seat without Dreamweaver UltraDev, or $5,199 with Macromedia's software included.



JBuilder 6's EJB Designer lets developers build and link Enterprise JavaBeans within the graphical environment.

Extending the suite concept from development to deployment, Borland unveiled its Enterprise Server 1.0, which contains not only the company's J2EE AppServer, but also its VisiBroker CORBA-compliant object request broker, Sonic Software Corp.'s SonicMQ Java message server and other pieces of Borland technology, all with a goal of helping the customer by integrating these products into a single package with a unified installation procedure, single license and single management console, said Mike Rozlog, chief technical architect for Enterprise Server.

The Enterprise Suite is available in three configurations, only one of which is J2EE compliant. The entry-level Web Edition, priced at $399 per server, consists of the Apache Web server, Tomcat servlet engine and JdataStore database. The VisiBroker edition, priced at $2,500 per processor, adds VisiBroker and an IIOP-based plug-in that can connect Apache to CORBA. The AppServer edition includes Borland's J2EE-compliant AppServer and SonicMQ, can communicate using remote method invocation over IIOP, and is priced at $12,000 per processor. The edition also includes load balancing, fault tolerance and failover, said Kratel. All versions are also scheduled for general availability on Nov. 30.

In addition, Kratel unveiled new deployment pricing, which he said was set after the events of Sept. 11 to make it more affordable for businesses to create disaster-recovery plans for their data centers. With this new pricing, Borland will allow customers to set up and deploy backup servers without paying any license fees on those servers, he said, while Borland will offer a 70 percent discount for software deployed onto only hot standby servers. ▮

ColdFusion to Straddle Java, .NET

Macromedia leverages both platforms' strengths with 'Neo' strategy

BY DAVID RUBINSTEIN

Macromedia Inc. is giving ColdFusion a new Java foundation even as the Web application server is more tightly integrated with Microsoft Corp.'s .NET Framework. At the center of it all, according to a company spokesman, is Web services.

The next release of ColdFusion, which was reported first in SD Times in May, is being worked under the code name Neo, and is expected to be completed by the middle of next year.

Neo's new Java architecture will allow ColdFusion developers to create robust, scalable applications by leveraging the whole collection of APIs and technologies within the Java platform, claimed Adam Berry, Macromedia's vice president for the ColdFusion server business. ColdFusion will be further integrated with Macromedia's own JRun J2EE-compatible application server and also will support BEA's WebLogic and IBM's WebSphere.

ColdFusion provides a layer of abstraction that allows developers to focus on the functionality of the application, Berry said. "Business application developers create a lot of important applications," he said. "ColdFusion allows developers not to have to worry about underlying platforms.

Berry said Macromedia (www.macromedia.com) is making its biggest investment in ColdFusion in the area of XML Web services. "That's the glue that holds the story together," Berry said. Citing a history of support for the Microsoft operating systems, Berry said support for .NET is merely an extension of that support. "A lot of the integration questions [with .NET] depend on where Microsoft is taking it, and where we see demand from our customers." ▮

HIT SOFTWARE'S WEB SERVICE EXPOSES RELATIONAL DATABASES

BY EDWARD J. CORREIA

Most organizations have considered, or are currently developing, ways to use the Internet to do business with partners. But chances are, performing meaningful business transactions requires opening up their databases to the outside world.

Offering a way to automate that process securely is Hit Software Inc., which has introduced jAllora 2.5, the latest version of its Java-based XML-to-SQL translation server that the company claims can expose relational databases as a Web service without compromising the security of your company's most valuable asset.

According to Hit (www.hitsw.com), jAllora imports XML data into relational databases and generates XML data from the databases according to maps set up from Document Type Definitions or XML schema. Making that data available as a Web service is jAllora, which runs on any JDK 1.3 platform with JDBC 2.0 SQL middleware.

The server software includes a graphical mapper, server-side Java classes and a pair of client interfaces: one language-independent, and one Java-specific with extended XML record set capabilities. Both are defined via WSDL and accessed by UDDI. jAllora runs at the server with the TomCat 3.2.1 servlet container over SOAP 1.1 and is accessed remotely over SOAP 1.1.

jAllora 2.5 is scheduled for release in early November; its licensing fees start at $2,995. ▮

News Briefs

COMPANIES

BEA Systems Inc.'s WebLogic J2EE app server now supports the Edge Side Includes (ESI) markup language and the Java-based custom tag library for ESI (JESI). This allows Web caches to store static portions of Web pages while refreshing only changed or customized content . . . Well-known programmers' editor maker **MicroEdge Inc.** has changed its name to **SlickEdit Inc.** to match the name of the company's flagship product, Visual SlickEdit. The company also released a version of Visual SlickEdit 6.0 for FreeBSD . . . Users of **Metamata Inc.**'s JavaCC can still use the software for free; **WebGain Inc.**, which purchased Metamata last April, will continue distributing the Java compiler compiler from its Web site. A new version, JavaCC 2.1, was recently completed and is available from www.webgain.com /products/java_cc.

PRODUCTS

IxiaSoft Inc. has updated its XML database for Windows NT/2000. According to the company, **TextML Server 2.0** offers faster content indexing and shorter response times to queries, along with support of foreign languages through UNICODE and numerical data indexing. It also allows documents to be searched using their stored document properties, in addition to content and XML tags. The latest release is priced at $9,995 per server . . . IBM Corp. has posted the **Jikes Research Virtual Machine** (RVM) to its www.ibm.com/developerWorks site. Jikes, released as open-source software, is a self-hosting Java Virtual Machine written in Java. By contrast, claims IBM, other JVMs are either written in native code, such as C or C++, or written in Java using a second underlying virtual machine to execute its Java code . . . After several rounds of beta testing, Trolltech AS has released **Qt 3.0**, a multiplatform C++ graphical user interface development framework for Linux, Mac OS X, Unix and Windows . . . McObject LLC has ported its **eXtremeDB** memory-resident embedded database engine to OnCore System Corp.'s **OnCore** operating system . . . Microsoft Corp.'s **.NET Alerts Service,** the first of its .NET My Services, delivers XML-based messages via instant messaging, e-mail or mobile platforms, and gives users control over the form and delivery of those alerts. The service relies upon user authentication using Microsoft's Passport Web site. See www.microsoft.com/myservices/alerts.

PEOPLE

Embedded tools maker General Software Inc. has named **Matthew Schiltz** as its president and CEO. Schiltz, who recently served as CEO of CourtLink Corp., takes over day-to-day running of the business from founder **Steve Jones**, who retains his position as chairman and CTO . . . **Dick Williams** is the new CEO of Wily Technology Inc., a company that offers performance management tools for Java. After working at IBM Corp. and Novell Inc., Williams served as president and CEO of Illustra Information Technologies, which was acquired by Informix. Wily also appointed **David Strohm** of Greylock Management as chairman, following the company's completion of a $10 million round of financing from Accel Partners and Greylock Management.

STANDARDS

In late October, Epicentric Inc. submitted its **Web Services User Interface** specification ("New Web Services UI Spec Based on XSLT," SD Times, Aug. 1, page 8, or online at www.sdtimes.com/news/035 /story10.htm) to OASIS, the Organization for the Advancement of Structured Information Standards . . . The W3C released **XML Information Set 1.0** as an official Recommendation. The InfoSet defines a set of 11 standard types of items in XML documents (www.w3.org/TR/2001 /REC-xml-infoset-20011024). Also released as an official Recommendation is the **Extensible Stylesheet Language (XSL) 1.0** . . . The W3C also released the **CSS Mobile Profile 1.0**, a subset of Cascading Style Sheets Level 2 for mobile devices, as a Candidate Recommendation, and unveiled the first Working Draft of **VoiceXML 2.0** and the fourth Working Draft of **XML Events** (formerly known as XHTML Events). ■

Iona Reinvents Its Strategy...Again

From CORBA to J2EE, now to Web services

BY CHRISTINA M. PURPI

"We're changing everything and completely realigning the company," announced John Rymer of Iona Technologies Inc. late last month.

That's the second time this year. Prior to April 2000, Iona was positioned in the CORBA and middleware space, then shifted its mentality to J2EE with its iPortal application server. Then, in March 2000, Iona again completely retooled to focus on B-to-B with its XMLBus toolkit for creating Web services.

For this latest reincarnation, Iona has begun completely revamping its product line and rebranding it. "The strategy and the goals of the company have not changed, but the products that we're bringing forward starting on [Nov. 6] are going to be completely different and will really change the landscape of integration technology," claimed Rymer, vice president of product marketing.

Previously, Iona's product line encompassed seven different offerings. However, due to the rising interest in Web services, the company plans to "collapse all of the technology down into two product sets under a single brand name. One will be devoted to enterprise integration, and the other will be devoted to application serving," Rymer said.

Both of these products, rebranded under the name Orbix E2A, whose name is meant to indicate "end to anywhere," will use Web services standards to support the creation of new applications and integrate existing ones. "We're getting behind Web services integration as our strategy going forward," Rymer said. "We think Web services integration is the next phase of integration. Right now integration is hard and expensive. Web services are going to make it simple and a lot less expensive."

Is Iona (www.iona.com) getting rid of its other products? Not according to Joanne Friedman, vice president for electronic business strategies at Meta Group Inc. The remaining products "are not necessarily going to go away; they just aggregated their capabilities into a more platform-based architecture leveraging Web services as well."

Rymer said, "We've been quietly selling Web services technology for about six months now." But recent announcements of Iona's XMLBus Web services toolkit; version 3 of the iPortal Application Server with free licensed copies, free upgrades and support for one year; and a free copy of Iona's XMLBus toolkit to JavaOne visitors indicate a more aggressive approach.

The Web services integration platform will take existing applications, connect them and put them into an automated business process flow using Web services, according to Rymer.

"We've taken our Orbix product and combined it in a single environment with our Java application server and Web services technology to construct our application server platform," said Rymer. "It gives you the scalability of CORBA, the productivity of Java [and] J2EE and the accessibility of Web services."

Rymer claimed that Iona is the first company to be devoted completely to Web services. "Everyone else is talking about Web services in the future. We are getting behind and driving [them]. We are the first company to totally commit to Web services integration as the way forward with application integration."

Meta's Friedman agreed with the trend. "I see other vendors following in similar paths, and yes, they seem to be the first within their enterprise application integration and B-to-B vendor market space." ■

BEA Enhances Portal, Integrator

BY DAVID RUBINSTEIN

BEA Systems Inc., best known for its WebLogic application server, has recently updated two additional pieces of the company's Web services and application management solution set: Portal 4.0 and Integration 2.1.

"Customers want a single point of contact that spans the enterprise," said Shane Pearson, BEA's Portal product manager. "They don't want multiple single points of entry."

Among the major new features of Portal 4.0, Pearson said, are rules-based entitlements, which Pearson described as a way to govern access to information with automated administration tools; support for multipage "portlets"—modules within portals that provide real-time access to data or applications—and an editor to manage the creation of the portlets; and a new graphical editor for the creation of Web page flow.

BEA hopes to have more than 1,000 third-party portlets available on its BEA Portlet Gallery Web site by April 2002, claimed Leon Baranovsky, BEA's director of strategic marketing. Also, BEA is expanding its Star Solution partner program to include those building application portlets or Web services for BEA's platform, he said.

Portal 4.0, available now, sells for $57,000 per processor and includes the WebLogic 6.1 app server, Baranovsky said.

Integration 2.1, BEA's business process management solution, now supports XML-to-EDI translation in messaging, through an OEM relationship with Peregrine Software Inc., Baranovsky said. Integration sells for $52,000 per processor and also includes the WebLogic app server. ■

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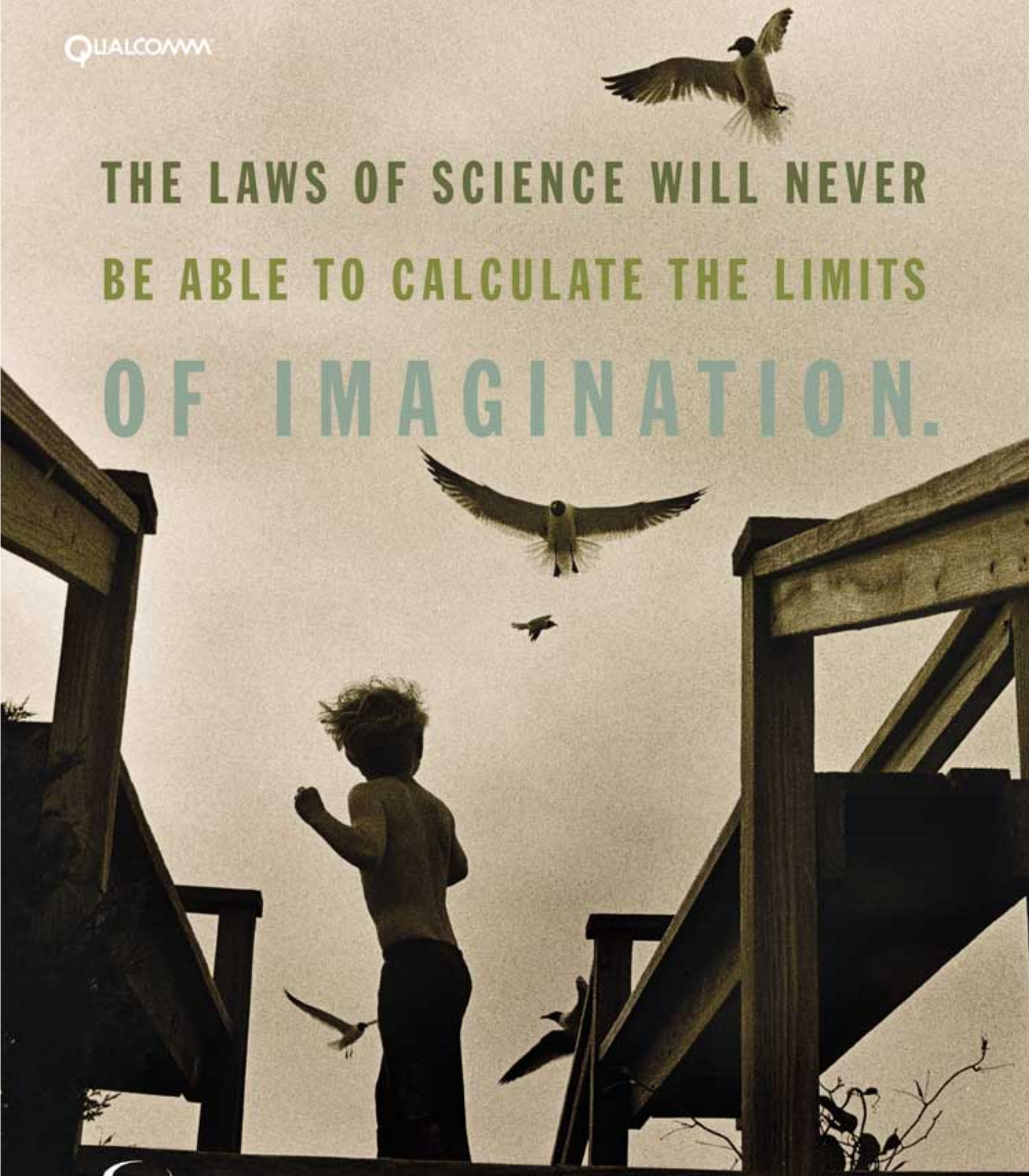

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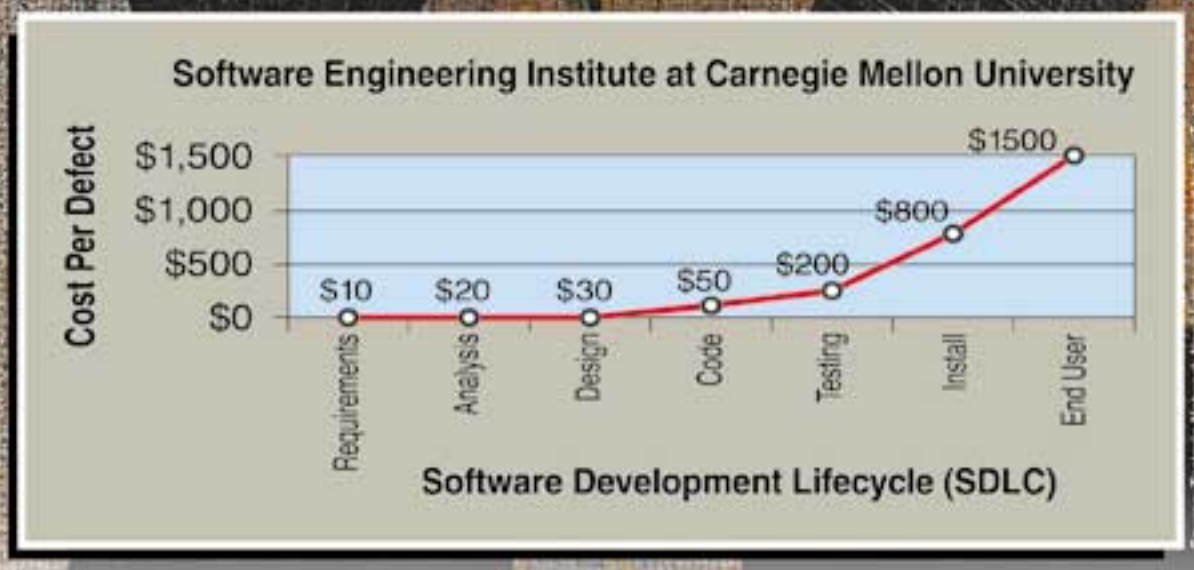

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NeuVis RAD Environment Retooled for Web Services

BY CHRISTINA M. PURPI

NeuVis Inc. has enhanced its NeuArchitect rapid application development platform for e-business applications to include such new features as support for Web services components, more application servers, Java Message Service (JMS) and improved message modeling features.

According to Peter Intermaggio, senior vice president of marketing at NeuVis (www.neuvis.com), version 3.5 adds message-driven beans, entity beans and a host of different types of construction patterns that separate presentation and business logic. It will now offer options to deploy COM and J2EE services and allow developers to build and publish Web services components.

NeuArchitect adds flexibility so developers can upgrade their applications to support new platforms, claimed Intermaggio. "For example, when an upgrade to WebSphere 4.0 comes out, the application will reconstruct and redeploy with the touch of a button. In other words, develop once, deploy in any form on any application server," he said.

"NeuArchitect offers protection from technology obsolescence—the ability to reconstruct and redeploy from Web Sphere 3.5 to Web Sphere 4.0, for example," Intermaggio added. "You won't be left on the sidelines when important new features come out on those J2EE app servers. Companies have made big bets on those J2EE app servers, and they need to protect their investments."

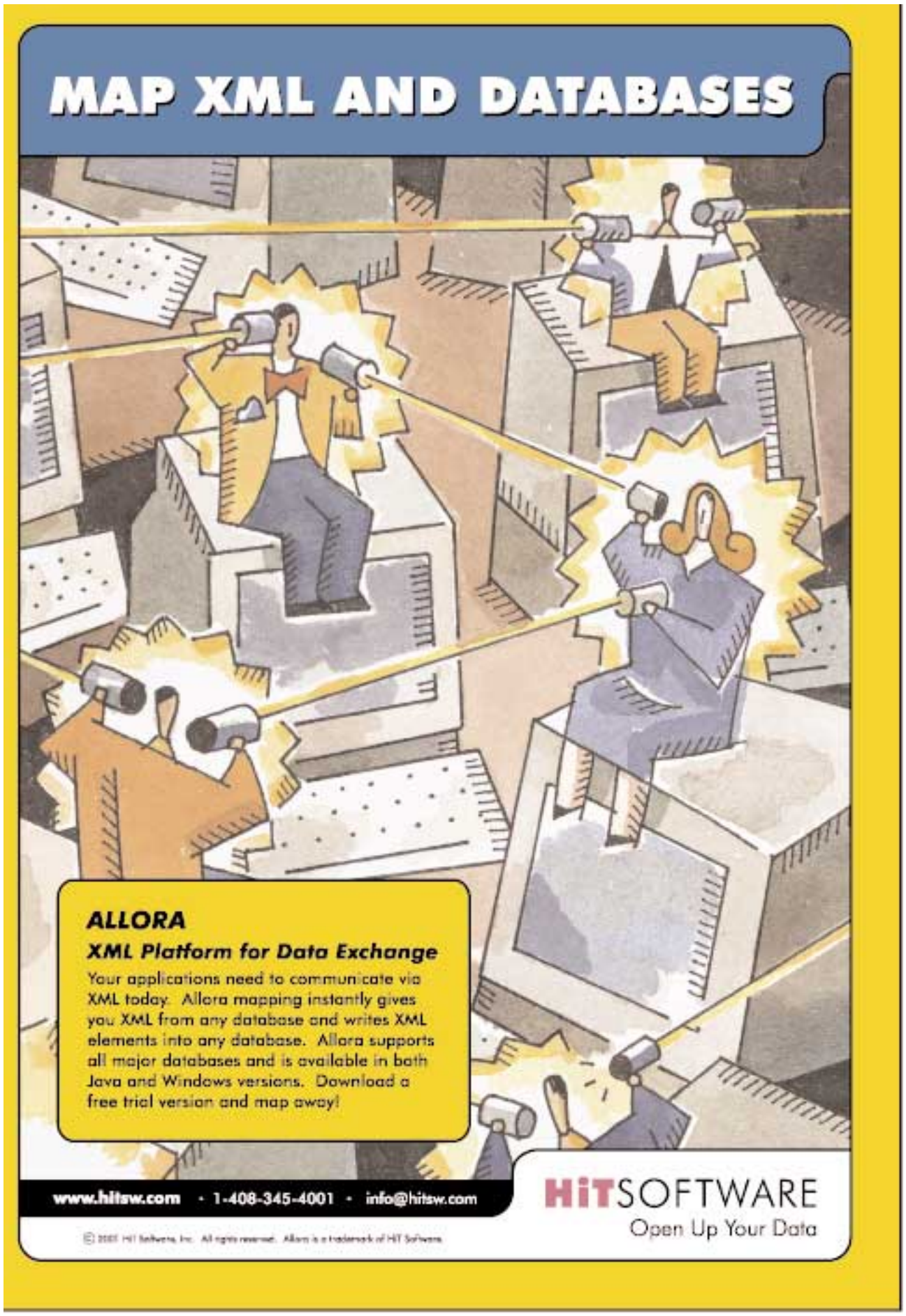
Developers who are writing business logic don't have to worry about the vendors, said Jim Farrel, vice president of product development. "In order to map to translation in a new architecture, all you have to do is drag and drop. There is no need for XML parsers or messaging systems."

Version 3.5 also adds a broader range of host CICS, IMS, SAM and mainframe systems that can be accessed, and its data can be transferred into a development environment that provides a high level of extraction of the data for developers, according to Intermaggio.

Intermaggio said the platform allows developers to respond rapidly to changing business requirements. "If you want to add a new feature in an application built in a new architecture, it's easy to add a new feature, because it doesn't require extensive hand coding," said Intermaggio. Available now, NeuArchitect version 3.5 is priced at $5,995 per developer seat for a year term.

In related news, NeuVis has launched what the company calls a Developer Center Web site that includes libraries, documents, tips, technologies, tracks, technical support and FAQs for development managers to stay current on new products.

The Developer Center site also includes a resource section featuring product documentation, technical demonstrations and white papers. ▮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Microsoft Partners Poised for .NET

Third-party tools, components on display at PDC

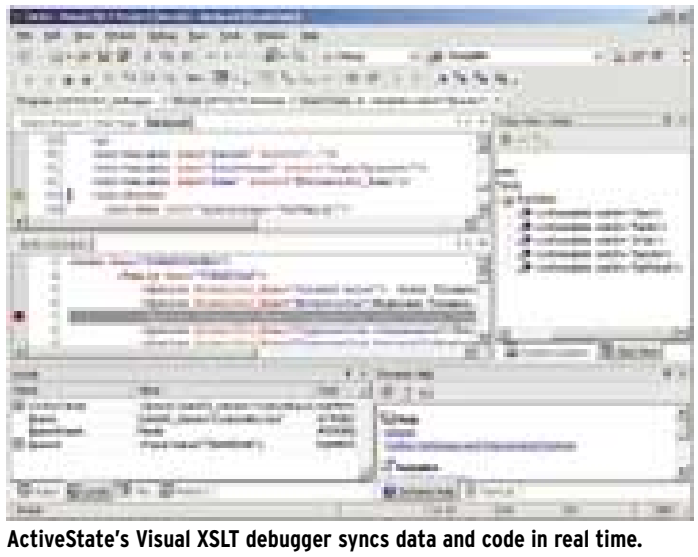
BY ALAN ZEICHICK

LOS ANGELES — Developers expecting to see third-party momentum for the .NET platform would have found several interesting announcements at Microsoft Corp.'s Professional Developers Conference 2001, held here in late October. While not overwhelming in numbers, these announcements demonstrated support for .NET by component and tools vendors, mainly by Microsoft partners already heavily invested in the COM+ and ActiveX platforms.

TOOLS

ActiveState Corp. (www.activestate.com) shipped Visual Perl and Visual Python as add-ins to Visual Studio.NET. Priced at $295 per language, they represent the first third-party languages released for Microsoft's new IDE, claims the company, and can leverage ASP.NET and consume Web services. According to ActiveState, future versions of these tools will include Web Services Description Language-based code auto-completion, WSDL class browsing, and the ability to write and deploy Web services.

During the show, ActiveState also shipped Visual XSLT, an Extensible Stylesheet Language Transformation debugger that the company says synchronizes data and code in real time. The tool, which plugs into Visual Studio.NET, also provides an output preview to show the result of transformations in a Web browser automatically, ActiveState says. The tool is priced at $295 per developer seat.



ActiveState's Visual XSLT debugger syncs data and code in real time.

Following closely on ActiveState's heels was **Interactive Software Engineering Inc.**, which previewed its Eiffel Studio 5.1, an Eiffel compiler and IDE designed to work with the .NET Framework. Eiffel, an object-oriented language developed by Bertrand Meyer, is based on the concept of "Design by Contract." Meyer serves as ISE's CTO. A trial version is available at www.eiffel.com. Eiffel Studio, which also runs on Linux, Unix and VMS, is priced at $2,999 per developer seat.

Although **Compuware Corp.** (www.compuware.com) didn't release any tools at PDC, it previewed several of its products under development, including DevPartner Code Review, which the company described as a utility for helping developers migrate Visual Basic source code to Visual Basic.NET, as well as other tools for profiling execution of .NET applications and debugging Oracle PL/SQL applications from within Visual Studio.NET, and a stress-test utility for .NET applications.

Softwise Inc. showed off its new Dataphor application-development tool for data access and manipulation. Designed to be integrated into Visual Studio.NET, Dataphor, which was announced last June, helps developers solve problems with databases, such as schema duplication, information lost during joins and static data types, according to the company. Dataphor is being developed by a newly formed division of Softwise called Alphora (www.alphora.com), and the software will be released shortly after the release of Visual Studio.NET.

Coming from **Red Gate Software Ltd.** (www.red-gate.com) was the first public beta of the Advanced .NET Testing System, or ANTS, which uses Visual Basic.NET to script tests for Web services and Web applications written in any of the Visual Studio.NET languages, according to the company. The company says that ANTS will be

▸ continued on page 10

PDC FOCUS

◂ continued from page 1

the divergent paths of HTTP-based Web sites and client/server applications into one that combines the Internet and local execution of Windows code on what Gates referred to as "smart clients." These devices run the gamut from large screen (desktops, notebooks and tablets running Windows XP) to small screen (telephones and Windows CE-based Pocket PC devices). "Well, now we're showing how around this .NET architecture we have the key pieces," he said. "First of all, we have the servers, the .NET Servers, we have the services, the key building block services, and finally the intelligent clients: Windows itself on the PC [and] a subset of Windows on the Pocket PC devices."

A demonstration from Microsoft engineer Anders Hejlsberg clearly showed that Microsoft's vision includes Web services being deployed onto the Windows desktop as locally running applications. Using Visual Studio.NET, he quickly created and compiled a database-lookup Web service based on the ADO.NET (Active Data Objects) classes, and then deployed it onto a Web server. When accessed by the user, the Web service didn't merely return the data as an XML document, explained Hejlsberg, it automatically downloaded the compiled application to the Windows desktop and executed it—in this case, displaying the database information as a two-dimensional grid.

SD Times Photo: Alan Zeichick

The PDC show floor had 69 exhibitors plus a large Microsoft presence.

What was not openly stated by Hejlsberg was that this type of Web service would be usable only from Windows-based clients equipped with the .NET Framework and Common Language Runtime environment. Hejlsberg did explain, however, that the process of downloading and running applications via Web services is automatic—and that users should trust in Windows' security features. "One thing you'll notice here is that we did not get any kind of warning dialog or security dialog that says, 'Warning, do you want to run an executable?'" he said. "The reason is that this executable that we're running is actually running in a secure sandbox, and there are whole lots of barriers around it as to what things it can actually do."

At the conclusion of his keynote, Gates provided a broad overview of the company's future directions. In 2002, the company will ship its Tablet PC software platform, which is a superset of Windows XP Professional, and expects manufacturers to have consumer devices available in the second half of the year. The company also will release Windows .NET Server, the successor to Windows 2000 Server; refresh several of the .NET Enterprise Servers; and complete its work on .NET My Services and Visual Studio.NET.

Most elements of the software stack, including Visual Studio and Windows itself, are due for their next update in 2003, Gates said. "2003 is the next major milestone for us in terms of the Windows release. That will be a very important release—a lot going on in the peer-to-peer, a lot going on in the advanced presentation environment there," he said. "We'll have a round of servers that are timed with that, and of course we'll be able to go with the major new version of the tools that match up with that and a major new version of the services."

Perhaps most telling was one of Gates' final comments: "We've been very conservative in our financial approaches. We're able to keep our R&D budget growing at this time, and so we're moving full speed ahead—lots of neat new things that are going on." ▮

MICROSOFT PRICES .NET MY SERVICES

Microsoft Corp. has finally announced the pricing for developers who wish to utilize its .NET My Services, the set of Web services previously known by the code name HailStorm. The company distributed a preliminary SDK for these services at its Professional Developers Conference.

According to Hal Howard, general manager of .NET Passport at Microsoft, there won't be transaction costs for hosting these services, only a fixed license fee. For most enterprise applications, said Howard, the price will be $10,000 per year per app, plus a one-time $1,500 fee to cover Microsoft's costs of testing the software to ensure that it won't create runtime problems on the hosting servers.

Microsoft will charge a smaller annual license of $1,000 per year, and a $250 testing fee, for Web services that will see only minimal usage or limited deployment. Howard said there is no preset price for commercial Web services offerings, and that Microsoft will negotiate based on the service levels required. *—Alan Zeichick*

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.NET TOOLS

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formally released on Jan. 17, 2002, but did not reveal pricing.

COMPONENTS

ComponentOne LLC (www.componentone.com), the company formed by the merger of Apex Software and VideoSoft, unveiled its ComponentOne Studio for .NET, a subscription service the company described as being similar to Microsoft MSDN, only focusing on delivering .NET versions of some of the firm's ActiveX controls. The service, which the company says will be generally available before the end of the year, will be offered for $599.95 per year.

Another component vendor, **Developer Express Inc.** (www.devexpress.com) demonstrated its ASPXGrid, which it described as the first grid control written for Microsoft's ASP.NET runtime environment. The company says that a preview version of ASPXGrid will be available in November. The company's XtraBars toolbar and menu system for Visual Studio.NET should also be shipping this month.

Developers looking for a file-transfer-protocol component for .NET can find one from **Dart Communications** (www.dart.com), which unveiled its PowerTCP FTP at the conference. According to the company, the component provides four levels of TCP support, including low-level classes, design-time tools, runtime code and access to FTP as a Web service. The component will be available whenever the .NET Framework ships, and pricing was not disclosed.

Also scheduled for release simultaneously with the .NET Framework is Dundas Chart, a charting component from **Dundas Software Ltd.** (www.dundas.com). Pricing for the chart component was not provided. The company also unveiled its Ultimate Grid 5.0 component for the Microsoft Foundation Classes; available immediately, this release now includes an Excel/Access 2000 look and feel, new cell types, new ADO data sources and faster sorting routines, according to the company. Ultimate Grid 5.0 is licensed at $399 for a single developer seat.

Infragistics Inc. announced it will ship the first versions of its ASP.NET components within four weeks of the final release of Visual Studio.NET. The company already has released beta versions of many of its Web development components for .NET at www.infragistics.com.

N Software Inc., another vendor displaying preliminary software, released the first public beta of its IP Works 5.0 Internet Toolkit for the .NET Framework. According to the company, the beta includes more than 30 components covering tasks such as sending or receiving e-mail, transferring files, browsing the Web, consuming Web services and parsing XML documents. N Software claims that the .NET versions of its components share code with the Java edition of the IP Works toolkit, with Java code mechanically translated into C# code. The beta can be downloaded from www.nsoftware.com. Pricing and a final ship date were not announced at the conference.

The **ComponentSource** marketplace, which focuses primarily on Microsoft-compatible components, used the PDC to launch its .NET Beta Component Site, at www.componentsource.com/dotnet. According to ComponentSource CEO Sam Patterson, the site contains beta .NET components from Concept Software, Dart Communications, Inabyte, Infragistics, Lead Technologies, N Software, Sax.net, SoftArtisans, VisualSoft and Xceed Software. ▮

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Data Direct Goes It Alone

Merant spinoff has products, strategy in place

BY DAVID RUBINSTEIN

A second division of Merant International Ltd. received its walking papers this week, as data connectivity component vendor Data Direct Technologies Inc. took its first steps of independence and, like COBOL company Micro Focus before it, already has product rollouts and a strategy for the future in place.

Data Direct is a $50 million-per-year business focused on providing ODBC, ADO and JDBC components to OEMs, ISVs and enterprise development shops, according to new president and CEO Ed Peters, who ran the Data Direct division of Intersolv Corp. before it merged with Micro Focus and became Merant. Peters left to head up Cerebellum Software Inc. before being asked by Merant CEO Gary Greenfield—who had been CEO at Intersolv—to return and prepare the division to stand on its own. Data Direct was purchased by Golden Gate Capital Ventures, which also purchased Micro Focus, for $29.3 million.

XML is a step forward, says Data Direct's Peters.

"It's good for us, and it's good for Merant," Peters said, echoing a sentiment voiced by Micro Focus CEO Tony Hill upon his company's spinoff from the content management solution provider. "We had two different focuses and two different distribution models. Our dedicated focus is that we deliver data and application components that work."

Among the projects Data Direct has planned is an upgrade to its Connect JDBC driver. Version 2.2, which Peters said will be upwardly compliant with the soon-to-be-released Java Community Process JDBC 3.0 specification, will feature a Type 4 JDBC for Oracle—"the fastest we've ever produced," Peters claimed. Early next year, Peters added, Connect JDBC 3.0 will come out with jxTransformer, a layer in which to take relational data and expose it as XML.

Just before the spinoff, Data Direct released SequeLink 5.2, with support for IBM's DB2 for OS/390 and z/OS, Oracle 9i and Sybase 12.5 databases. Also, Peters said, XML support, which was enhanced in this release, will be a key part of future rollouts. "It's a step forward to solve problems of interoperability. To make things work together, you need three things as application infrastructure services: data drivers, interoperability connectors and a custom toolkit," he said. "As much as 70 percent of developers' time is spent gluing data to applications. That's $120 billion a year out the window." ▮

Sonic Targets Web Services, JCA

New message queue supports Java Connector Architecture

BY ALAN ZEICHICK

Web services messages are just additional message types that can be routed by middleware. That's the position of Sonic Software Corp., which has recently updated its SonicMQ Java messaging server, and introduced an extended version of SonicMQ specifically at emerging technologies such as Web services, Java Connector Architecture and Remote Procedure Calls.

Sonic is targeting a mass market, says O'Connor.

The new SonicMQ, version 4.0, according to acting company president Greg O'Connor, now supports Secure HTTP sessions, which he claimed lets the message server better interoperate with non-Java systems. It also can break very large messages, such as graphics files or XML documents, into multiple parts more suited for bandwidth-limited transmission paths, he said.

The new version is scheduled for delivery in December, and is priced at $2,500 for a developer version, with deployment priced at $5,000 per server processor—a price O'Connor highlighted as being targeted toward the mass market. "We view ourselves as the Borland of middleware," he said, alluding to the company's OEM agreement with Borland Software Corp. SonicMQ is included in Borland's Enterprise Studio Java application server suite.

In addition, Sonic (www.sonicsoftware.com) unveiled SonicXQ 1.0, a superset of SonicMQ 4.0 that adds a layer of XML processing and Web services with content-based routing, according to O'Connor. "You can intelligently route XML documents through the network," he said, "picking up on addresses embedded in the XML message." This version also routes SOAP as a native message type, and supports the new Java Connector Architecture.

Due to ship in January 2002, SonicMQ is priced at $3,750 for developers, and deploys for $7,500 per server processor. ▮

Cape Clear Adds UDDI

BY CHRISTINA M. PURPI

Cape Clear Software Inc. has updated its Web services products—the CapeConnect deployment platform and the CapeStudio development environment—to include new UDDI serving and browsing capabilities.

CapeConnect Three's UDDI server lets developers publish Web services in a UDDI repository, according to Annrai O'Toole, executive chairman of Cape Clear (www.capeclear.com). "It utilizes wizards and other tools that make it so someone can publish a Web service without writing any code at all, by locating components that you want to publish and guiding you through, step-by-step, registering them in UDDI, publishing and making them secure." CapeConnect Three also includes a set of performance, security and reliability upgrades and support for SMTP and SOAP.

CapeStudio version 1.1 adds UDDI browsing capabilities that enable developers to point to either Cape Clear's private UDDI repository or one of the public repositories, and to search through and find the Web services they want to interact with, claimed O'Toole.

CapeConnect Three is priced at $950 per developer plus a per-server deployment cost of $10,000 per processor. CapeStudio, which runs on Linux, Solaris and Windows NT/2000, is priced at $445 per developer seat. ▮

Zero G Updates Installer

Mac OS X, Windows XP now targeted

BY ALAN ZEICHICK

Following recent updates from competitors InstallShield Software Corp. and Wise Solutions Inc., Zero G Software Inc. has just revised its own installer package, InstallAnywhere, to encompass new operating-system versions and its own Internet-based software updating system.

InstallAnywhere version 4.5, released last month, now includes the ability to create software installers for the latest versions of AIX 5L, HP-UX 11i, Mac OS X and Windows XP, according to the company, in addition to its previous support for older versions of those operating systems. It also can create installers for FreeBSD, Linux, Solaris and Tru64 Unix.

Zero G (www.zerog.com) also has incorporated PowerUpdate, its Internet-based software and content updating system, into the InstallAnywhere package.

InstallAnywhere 4.5 is offered in three versions. InstallAnywhere Now, which works on all of the company's supported platforms, including Java 1.3, is available free of charge from the company's Web site. The Standard Edition, priced at $995 per developer seat, is a superset that includes a JavaBeans-based API, works with the Windows registry, allows installation to multiple configurable locations, and provides the end user with alerts, dialog boxes and an installation summary.

The company's flagship $2,495-per–seat Enterprise Edition supports Windows NT services; creates installation logs; installs application-specific JVMs; and allows developers to add custom panels, according to the company. Zero G does not charge royalties for installers created with InstallAnywhere. ▮

BLUEPRINT MINES UML FROM COBOL

BY ALAN ZEICHICK

Moving software from an old technology to a new one—or more specifically, from COBOL to the Unified Modeling Language—is the mission of COBOL Miner, a reverse-engineering tool recently introduced by Blueprint Technologies Inc.

COBOL Miner, which runs as an add-in to Rational Software Corp.'s Rose modeling software, reads source code written in COBOL 85 (also known as COBOL II), analyzes it and returns a visual UML map of the application into Rose, according to the company. The UML model is organized in the same way as the original COBOL application, partitioned into individual programs and subprograms.

The tool also creates hierarchical data structure charts for the data divisions within the program, as well as procedure structure charts and program dependency charts that highlight the dependencies between programs and subprograms, claims the company.

COBOL Miner is priced at $9,495 for a site license, not on a per-developer or per-project basis, according to Blueprint CTO Michael Burnett, and can run on a Windows NT/2000 workstation equipped with Rational's Rose 2000 or later, the Java Runtime Environment 1.3 or later, and MSXML 4.0b2 or later. A demonstration version can be downloaded from www.blueprinttech.com. ▮

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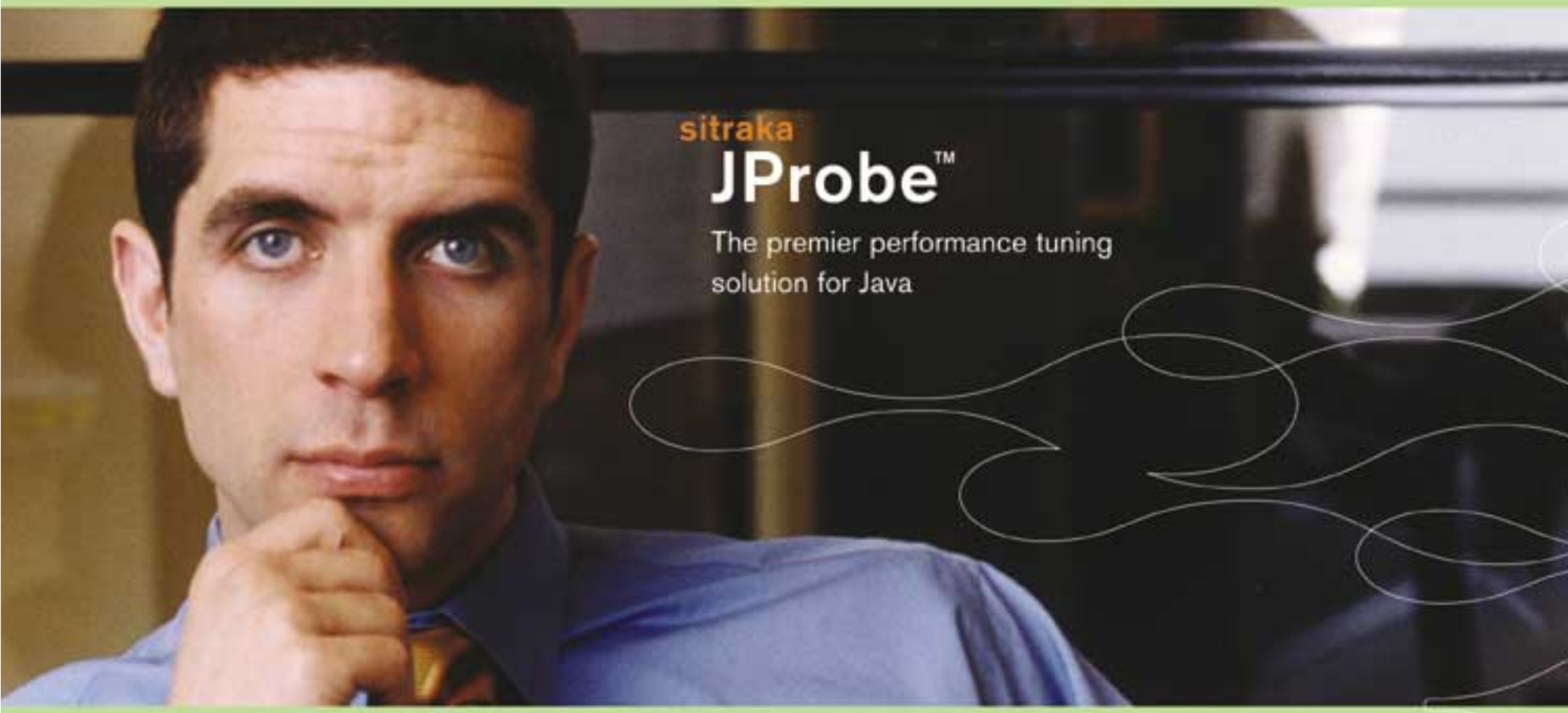

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WESTSIDE

◂ continued from page 1

relies on SQL Server and generates dynamic Web pages that can sort, filter, update and delete," he said, adding that while those types of pages could be built using ASP, ColdFusion or JSP, the difference is that HotRAD automatically builds the "common stuff that you [would otherwise] have to code by hand."

Snelling said that the Westside platform helps to solve this problem by abstracting a lot of the visual display elements into a view file, permitting developers to separate business logic from the display. "That allows you to write your code in isolated modules" in JavaScript, and also to use JavaScript to "trap interesting events on your Web sites" and trigger other actions. "Essentially, what we're doing is allowing people who already know how to build static Web sites to build professional dynamic Web sites without having to learn SQL. They just need to know HTML and JavaScript," he said.

So what makes the product different from other database middleware? "What's unique about our product is that it is completely hosted; there's nothing to download," making it accessible from anywhere, he said. "It's also got the advantage of single-instance software. So bug fixes and feature upgrades are deployed instantly."

Westside (www.westside.com) also hosts an online marketplace for prebuilt application functionality components. Snelling likened his so-called HotBlocks to Visual Basic custom controls. "They're prebuilt blocks of functionality that developers can download and install into their applications that extend the usefulness of the product," he said. HotBlocks are developed, bought and sold among developers. "It's an open marketplace that we host and participate in, but we don't control it."

A HotRAD license costs $19 per month or $99 per year per developer, and covers unlimited development of nondeployed hosted applications. Deployed applications cost $200 per month for the standard plan, or $500 per month for applications that require full text search and SSL. Self-hosting costs $15,000 per processor. ▮

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Town Hall Meetings New to XML 2001

BY CHRISTINA M. PURPI

New to this year's XML Conference & Exposition are organized town-hall-style meetings open to all that will provide developers with a forum for the discussion of XML and its various topics.

The conference, produced by IdeaAlliance Inc., is set to take place from Dec. 9 to Dec. 14 in Orlando, Fla., and includes more than 46 preconference tutorials and six tracks with more than 130 separate technical sessions. ▮

XML 2001

CONFERENCE: Dec. 9–14
Walt Disney World Dolphin Hotel, Orlando, Fla.

PRECONFERENCE TUTORIALS:
Sunday, 9 a.m.–5:30 p.m.
Monday, 9 a.m.–5:30 p.m.

CONFERENCE HOURS:
Tuesday, 9 a.m.–9 p.m.
Wednesday, 9 a.m.–9 p.m.
Thursday, 9 a.m.–9 p.m.
Friday, 9 a.m.–3:30 p.m.

EXHIBIT HOURS:
Tuesday, 12:30 p.m.–7 p.m.
Wednesday, 12:30 p.m.–7 p.m.
Thursday, 10:30 a.m.–2:30 p.m.

KEYNOTE SPEAKERS:
Tuesday, 9 a.m., Opening Keynote, Lauren Wood, SoftQuad Software.
9:45 a.m., "Challenges Facing the XML Community," James J. Clark, Thai Open Source Software Center.

Wednesday, 9 a.m., "XML and Databases," David Reed, Microsoft Corp.

Friday, 2 p.m., Closing Keynote, Larry Cable, iPlanet.

www.gca.org/attend/2001_conferences/xml_2001

VA Linux Switches From ASP to ISV

BY CHRISTINA M. PURPI

Struggling VA Linux Systems Inc. has changed its business model for the second time in four months, and is now focusing on selling its SourceForge as customer-installable software rather than as a hosted Internet-based service.

In late June, VA Linux announced that it would abandon the hardware business, which accounted for 73 percent of its earnings, and focus on its SourceForge OnSite Collaborative Development System, which enabled companies to build external developer communities. With the release of SourceForge 3.0, the first software update since the changeover, the company has gone from providing software as a service to packaging an integrated collaborative software development platform.

"Our customers were more interested in buying software," admitted Larry Augustin, CEO of VA Linux (www.valinux.com). SourceForge OnSite was a hosted collaborative development service, where VA Linux managed the service for the customer. "We've now moved away from that [service] model, and we're just selling the software now. [Selling the software] turned out to be simpler—an easier sale, a simpler business. There was some level of interest in the hosted management service, but larger organizations have those capabilities and they are content just to buy the software," Augustin said.

SourceForge Enterprise Edition 3.0 is the first version that is being sold as a product and includes five features beyond what was offered with the OnSite service: expanded visibility, collaborative software development tools, scalability and performance upgrades, tighter integration between specific tools, and an extended automated install system, according to Dan Bressler, director of product marketing at VA Linux.

The new version can optionally support Oracle's 8i or later, which Bressler claimed increases the software's speed and scalability in large organizations.

SourceForge 3.0 was scheduled to be released on Nov. 6 and will have a starting price of $700 per user per year without the Oracle support and $1,050 with Oracle support. There is a 30-seat minimum, and larger licenses are available on a negotiable basis, according to Augustin. ▮

RATIONAL

◂ continued from page 1

that sit on separate servers and collect artifacts on a timed basis, or on demand, and collects them into a metrics warehouse.

Developers can create their own metrics for the part of the project on which they are working. Among the out-of-box metrics are distribution of total defects by state; trend of lines added, modified and deleted; earned value versus budgeted costs; and the trend of the number of late tasks.

The new application, which comes free of charge to Rational Suite customers as part of the Team Unifying Platform, allows developers to engage with third-party tools such as Microsoft's Word and Project, and has an open, pluggable API for other tools of choice, Locke said. ▮

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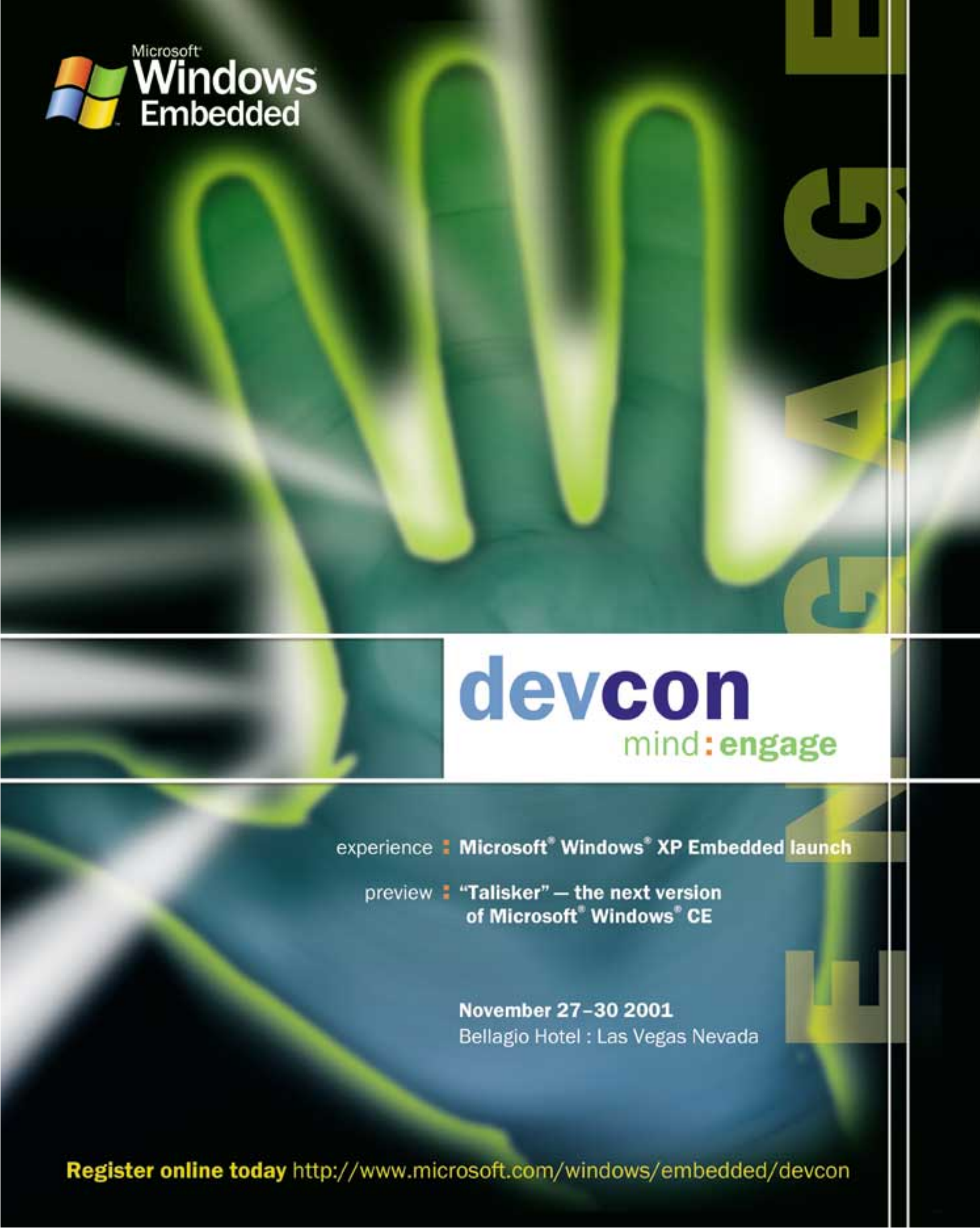
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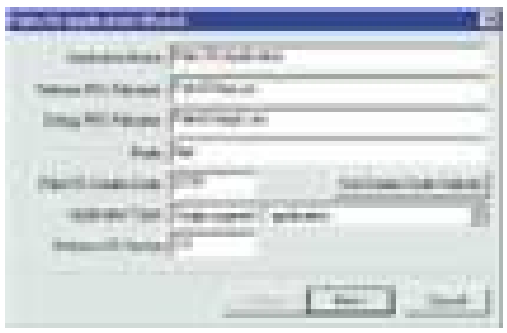
CodeWarrior for Palm OS Embraces C++, USB

Enhanced OOP support offers better use of memory, virtual function calls

BY EDWARD J. CORREIA

Metrowerks Corp. has released CodeWarrior for Palm OS 8.0, the latest version of its integrated development environment that the company says offers enhanced support for C++ programmers, adds USB debugging for Palm's own devices and enhances developer productivity with new wizards and online documentation of the Palm API.



The new application wizard speeds resource creation.

According to Gerardo Dada, senior product marketing manager for wireless technologies at Metrowerks (www.metrowerks.com), a new expanded compiler mode puts compiler-generated data such as virtual tables and exception tables into a section in the data heap rather than the dynamic heap, freeing space for global variables and other allocations. "It's a more efficient use of memory and other resources if a developer is using C++. It's making object-oriented programming more viable for [Palm OS] developers," he said, adding that through an extra call to the runtime library, expanded mode also supports features such as virtual function calls.

OOP is now more viable for Palm OS, says Metrowerks' Dada.

For developers building Springboard modules for Handspring Inc.'s Palm OS-based Visor handheld computers, CodeWarrior now permits ROM images for Springboard flash memory to be created directly from within the IDE, and new stationary forms simplify the creation of Springboard updaters. "Many of these little features add up to enable developers to take advantage of the capabilities offered by the various Palm OS licensees manufacturing hardware today," Dada said. "For example, by supporting the programming of Handspring modules, we are helping Palm developers to use all the features in those devices."

Support for USB debugging has been added for the Palm m125, m500 and m505 models, while maintaining compatibility with USB debugging on Handspring Visors delivered with version 7. The update includes the CodeWarrior IDE version 4.2.5, up from version 4.1, and now includes the entire Palm OS SDK reference manual in its context-sensitive help system for Macintosh and Windows. "If you're writing some C++ command and you can't remember exactly how Palm handles that, just press F1 and you'll get the reference on that specific API call," Dada said.

Through a plug-in, the software now also supports PilRC, an open-source tool for generating binaries from Palm resource script files. Syntax coloring for Palm's .rcp files also has been added. Of particular interest to Macintosh developers, Dada said, is that all components have been "Carbonized to work with Mac OS Classic and Mac OS X," and that once Palm provides a Carbonized version of the PalmRez post-linker, the IDE for Mac OS X will be complete.

CodeWarrior for Palm OS version 8.0 is available now for $499 per developer seat and includes software for Macintosh and Windows development hosts in the same box. Current licensees of version 7.0 can upgrade for $249; upgrades from previous versions cost $299. ■

SHARP SHIPS LINUX-BASED ZAURUS HANDHELD

BY EDWARD J. CORREIA

Add one to the short but growing list of Linux-based handheld development platforms. Sharp Electronics Corp. has begun shipping the Zaurus SL-5000D, its StrongARM-based computer targeted at corporate developers and vertical market integrators.

According to the company, Zaurus includes the Embedix operating system based on the Linux 2.4 kernel from Lineo Inc., C++ development environment tools, and a Java VM from Tao-Group Ltd. The expandable unit ships with a lithium ion battery, 32MB RAM and 16MB Flash ROM, and includes Compact Flash and Secure Digital slots. The unit's standard display is a touch-sensitive 3.5-inch reflective TFT color screen that supports 240x320 pixels and 65,536 colors. Ports include USB, IrDA, stereo out and mono in. Under the slide-down control panel is a QWERTY keyboard designed for input using both thumbs.

Sharp promised October delivery when it first announced Zaurus at the JavaOne show in June, and estimated the device would cost about $400. Sharp has revised its ship date to Nov. 5; the price had not been set at press time. Developers may register for support and download development tools and detailed system specifications at http://developer.sharpsec.com. ■

The slide-down control panel exposes a keyboard designed for thumb operation.

Linux Developers See REDSonic for Board Support

BY EDWARD J. CORREIA

With each advance in embedded hardware technology, a change in the software development tools is necessary to target that hardware. And that usually means waiting for an upgrade.

Not so, says embedded Linux developer REDSonic Inc., which last week was scheduled to release REDBuilder 2.0 XE, the latest version of its integrated development environment that now includes an extensible framework for adding board support utilities. "Developers no longer have to worry about the tools becoming obsolete as technology evolves," said Kwei-Jay Lin, chairman of REDSonic (www.redsonic.com), in a statement. "The plug-in framework allows the tool to grow as technology grows," he added.

The IDE includes REDICE-Linux, a POSIX-compliant embedded Linux that the company says features a pre-emptable kernel, a microsecond timer and guaranteed application performance. According to the company, this is accomplished by splitting the scheduler into dispatcher and allocator modules, which permits different scheduling methods to be implemented under the same framework. REDICE-Linux also can run concurrently with RTAI, enabling real-time jobs and hard real-time applications to coexist under the same job priority structure, the company says.

The plug-in framework grows with hardware, says REDSonic's Lin.

REDBuilder 2.0 XE, which supports ARM7, MIPS, PowerPC, StrongARM and *x*86, includes prebuilt configurations for supported boards, customizable modules and features automatic root file system creation and RAM and disk memory requirement calculation. Target-dependent pricing ranges between $5,000 and $12,000. Royalty prices are negotiated individually. ■

The embedded image builder features automatic memory allocation.

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CE.NET

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the reach of even the smallest of companies. "It enables them to build enterprise applications at a lower cost, and brings .NET application development capabilities to a wider range of companies," he asserted.

According to Lees, costs are reduced mainly because developers already building .NET applications on the desktop can use the same skills to target handheld devices. "It just gives them an extra platform target. They can take those same skills and experiences building desktop applications and build them for .NET Compact Framework. It's really very straightforward."

The Compact Framework runs on any Pocket PC, says Microsoft's Lees.

Christopher Flores, product manager for Visual Studio mobile and device features, further claimed that Visual Studio.NET and the full version of the .NET Framework and the subset compact edition have "erased the line between a desktop developer and a device developer."

But Mark Driver, research director at industry analyst Gartner Inc., called Microsoft's claims of a zero learning curve wishful thinking. "It's naïve. What they glossed over is that with mobile and wireless development, skill sets that are needed and the kinds of applications you build are dramatically different than on a server or desktop."

With mobile devices, Driver explained, network availability can vary, "so things like data caching and synchronization become critical." He added that development issues involving battery life and small-screen interface design are "dramatically different. While they've removed some of the headache [with the .NET extensions], they have nowhere near removed the learning curve."

Still, Driver concedes that the tools indeed serve to unite Microsoft's mobile and wireless offering with its desktop and server strategy. "For the first time, we're going to have a single set of tools that can scale from small embedded device through to desktops and servers. They're answering what Java has with J2ME, J2SE and J2EE."

Although Lees refused to be specific about the actual footprint of the .NET Compact Framework Common Language Runtime and class libraries, he did say that the framework "runs very comfortably on any Pocket PC," which start at 16MB RAM. Lees said the first full beta should be ready by the spring, and that when Windows CE.NET—formerly code-named Talisker—is released later this year, it will include the preview version of .NET Compact Framework, which for now runs only in RAM. And, according to Lees, the two products will share the same target list.

Microsoft also released a beta of the Tablet PC SDK, a development environment based on Windows XP that the company says will enable developers to build .NET-native speech- and pen-driven applications. According to Microsoft, the kit references an API, documents interface design guidelines and includes sample applications and source code. The final Tablet PC is scheduled for release in 2002.

Also released were preview versions of the .NET Alerts SDK for reaching client systems running Windows XP, and the .NET Speech SDK, an extension to Visual Studio.NET that the company says will permit developers to speech-enable new or existing HTML, XHTML and Web services applications. ▮

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Enterprise Java Comes of Age

The release of J2EE 1.3 solves many longstanding problems...but not all of them.

BY JENNIFER DEJONG

With the September release of J2EE 1.3, Java takes a significant stride forward, moving into the mainstream of enterprise application development.

What was once just a runtime and development environment is now the platform of choice on which to "build new stuff and integrate the old," said Brian C. Reed, vice president of business development for Data Direct Technologies Inc., a provider of data connectivity tools for J2EE and other platforms that recently was spun off from Merant International Ltd.

Java owes its newfound ability to take on the enterprise to the two most significant enhancements spelled out in version 1.3 of the Java 2 Platform, Enterprise Edition specification (J2EE). By defining the Java Connector Architecture (JCA), the spec gives programmers who develop on the J2EE platform a standard way to connect to legacy applications. And by formally incorporating the Java Message Service (JMS) and message-driven Enterprise JavaBeans (EJBs) into J2EE, the spec supports a reliable means of transporting transaction and other critical data across the enterprise—and provides an efficient way for that data to interact with legacy and other systems.

"The messaging gives you transport, and the connector architecture gives you something to plug into. That is a powerful change," said Nigel Thomas, product marketing manager at British company SpiritSoft Ltd. (www.spirit-soft.com). SpiritSoft sells open-standards enterprise JMS-based technologies and tools.

J2EE app servers are no longer islands, says Borland's Rozlog.

"Prior to the 1.3 spec, a J2EE app server was essentially an island," noted Mike Rozlog, chief technical architect for development tools maker Borland Software Corp. "Now it is able to reach out and touch other systems."

GETTING THE MESSAGE ON MESSAGING

Neither JMS—the API that provides standard messaging protocols—nor message-driven EJBs are new. But making them mandatory features of the J2EE platform is. "The inclusion of messaging represents the maturation of J2EE in terms of the enterprise," noted Bill Cullen, vice president of engineering for message-oriented middleware vendor Sonic Software Corp. (www.sonicsoftware.com).

Integrating messaging technology into the J2EE platform is a huge benefit, said John Kiger, director of product marketing for BEA Systems Inc.'s e-commerce server division. He noted that the company's application server, BEA's WebLogic, has supported message-driven EJBs and JMS for some time.

Powerful messaging makes J2EE an enterprise platform, says Sonic's Cullen.

"Message-driven EJBs changed the way developers built messaging applications on the J2EE platform," he said. In the past, when a developer wanted to access the messaging server, he had to write code that would manage memory and security as well as multiple threads. "It was technically doable, but highly complex," said Kiger.

"Now, the bean provides all that for you, leaving the developer to think only about the business logic. That's a huge leap forward. You don't have to write it, QA it or maintain it over time," he said.

"It was painful to write message-driven EJBs—and no one wanted to do it," echoed SpiritSoft's Thomas. "That is why [it's so important that] J2EE shoves messaging down people's throat," he said.

Without an industrial-strength messaging infrastructure, there is no way J2EE could assume the role of an enterprise development platform, said Sonic's Cullen. "The fundamental requirement of enterprise messaging is high-speed, reliable communication where, even in the presence of failure, no messages get lost. If a message fails, the messaging infrastructure will take care of it," he said.

ALL ABOUT DATA

To take on the enterprise, Java applications need not only the ability to move data efficiently, but also a means of effectively managing that data. The 1.3 spec makes significant strides in how developers manage the data associated with their applications, noted BEA's Kiger. In the earlier iterations of J2EE, container-managed relationships did not have the ability to use entity beans. In the new version, the container can manage the relation-

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Not Everyone's Happy With Java Evolution

BY DAVID RUBINSTEIN

A month after Sun Microsystems Inc. quietly announced the release of the Java 2 Enterprise Edition 1.3 specification, critics are claiming pieces of the spec remain unfit for deployment, and complain that a uniform, Java way of creating and consuming Web services still is not baked into the platform.

All of this comes at a time when Microsoft Corp. is close to finalizing its .NET Framework and development tools, looking to grab a lion's share of the enterprise development market away from Sun and its Java partners.

Among the J2EE topics specifically mentioned as being not quite ready for enterprise deployment are the much-ballyhooed Java Connector Architecture (JCA); database connectivity via JDBC; the interface between J2EE and application servers; and support for Web services. Industry figures are unhappy that Web services in J2EE are specified merely as using SOAP, XML and UDDI, allowing too much room for vendors to create their own proprietary solutions to address the Web services issue.

"I would not expect a lot of end users to adopt JCA, as it's a 1.0 specification," said John Goodson, a member of the JCP expert panel for JDBC 3.0 and JCA and vice president of product operations of data connectivity company Data Direct Technologies Inc. "JDBC was not taken up by the development community until 2.0," he said, adding that "it would have been good" to see JDBC 3.0 built into J2EE 1.3. "It has a lot of enterprise-relevant features, such as high-end performance." Goodson expects JDBC 3.0 to be included in J2EE 1.4, which Onno Kluyt, Sun's manager of the Program Management Office for the Java Community Process, said would be delivered by the end of next year.

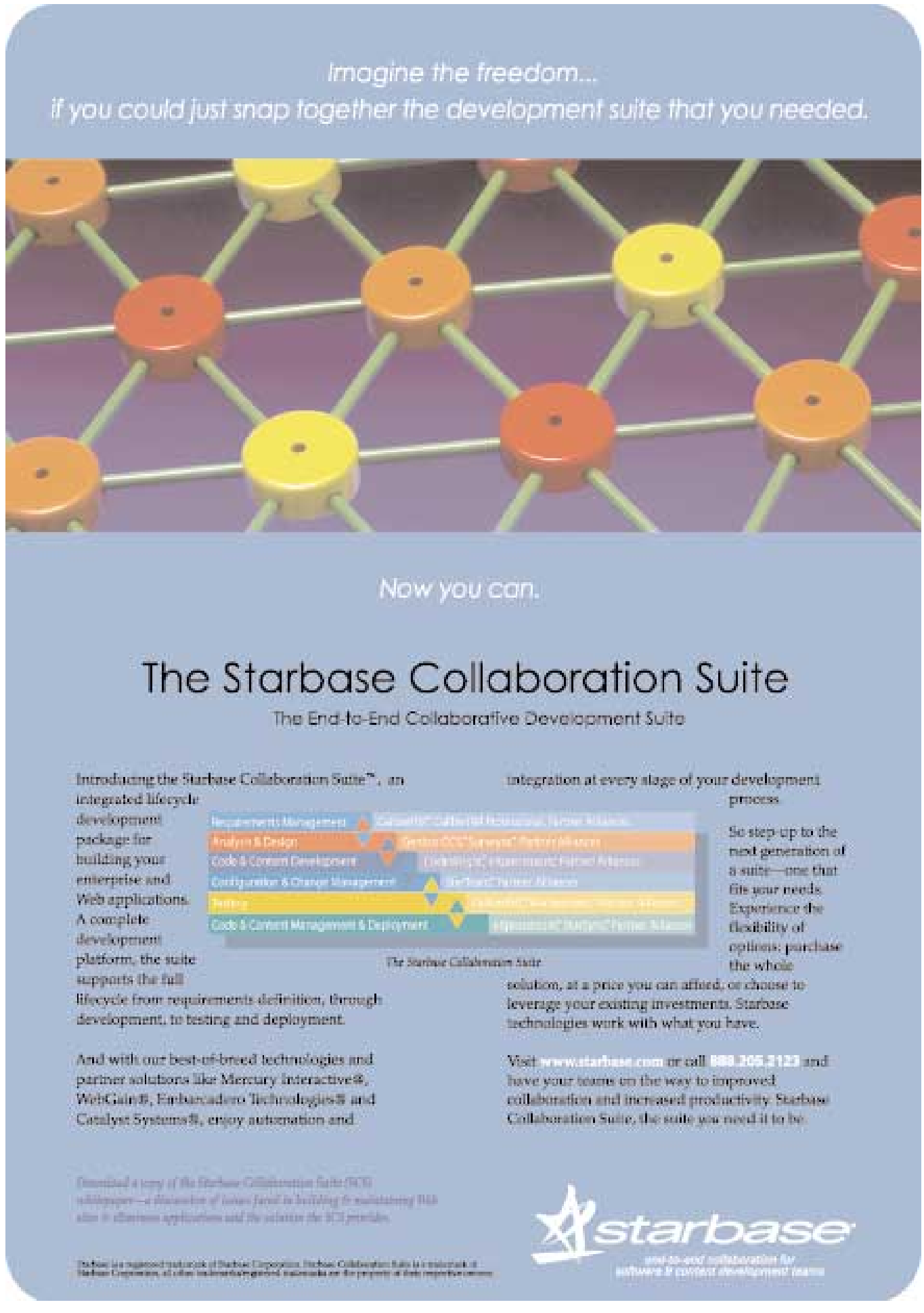
Bob Sutor, IBM's director of e-business standards strategy, complained that the lack of common interfaces for launching Java applications and Web services is an impediment to adoption. "There should be standard interfaces, but built on standards done elsewhere," he said. "That's a source of difficulty for Sun."

Sutor noted that there are more than 100 JSRs under consideration, and said there is tension "between folks wanting to start something versus where Sun wants to go with J2EE."

While highlighting the immaturities in the Java platform release, the critics were quick to point out that Microsoft's .NET Framework is also a 1.0 release.

Sun's Kluyt claimed the release date for 1.3 was not affected by Microsoft's timing of .NET, though he did acknowledge the JCP does hint at the direction it wants to move within the specification. He would not speculate on whether or not JCA was built into J2EE 1.3 as a way to indicate a direction for the platform, or on whether or not it is technologically ready for implementation.

J2EE 1.4, he said, has Web services at its focus. "In that regard, there is competitive pressure with .NET," he acknowledged. "Everybody wants to move to Web services." ▮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What's Next for the Java Platform?

BY JENNIFER DEJONG

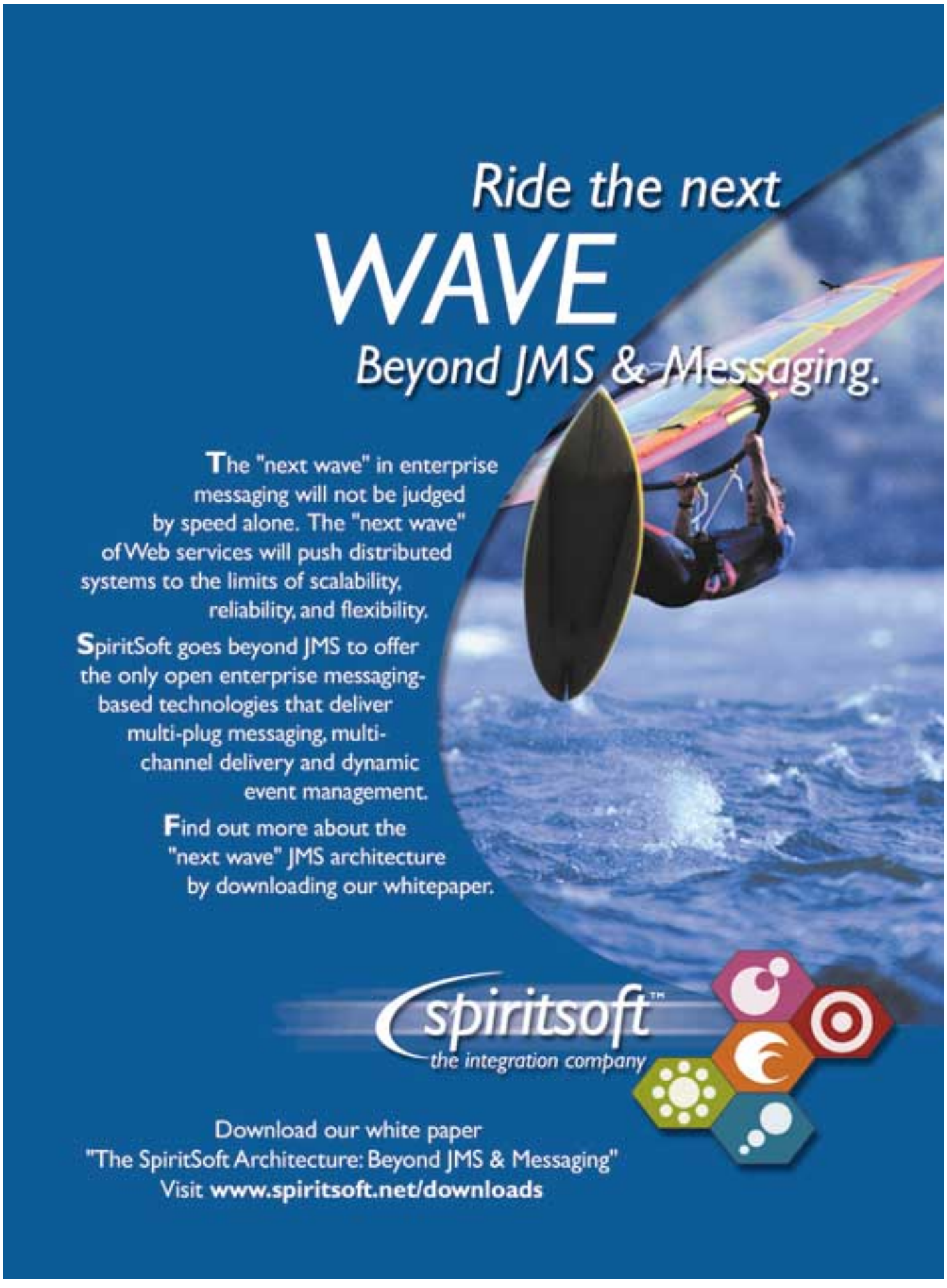
As Java charges ahead, developers are already asking, "What's next for J2EE?"

Of course, the first order of business is for vendors to implement the new specification in their products. Most of Sun Microsystems Inc.'s 34 licensees are currently engaged in the testing and compliance process required for certification, said George Grigoryev, J2EE senior product manager at Sun. He noted that Sun expects products to come to market pretty quickly, but as of mid-October, only one vendor—Computer Associates International Inc.—is offering a J2EE 1.3-certified product.

The testing and compliance process is a rigorous one, noted Kim Sheffield, vice president of e-business technologies at SilverStream Software Inc. "The 1.2 specification required 5,000 compliance tests. By contrast, 1.3 has 15,000 tests." He said that SilverStream is deep in the testing process but has not yet announced a release date for the J2EE 1.3-compatible version of its application server.

That hasn't stopped him, or anyone else in the J2EE developer community for that matter, from making a wish list of features they hope to see implemented in J2EE 1.4. "We would like to see support for JNLP [Java Network Launch Protocol]," said Sheffield. That would address in a standard way the issue of how Java clients talk to application servers. That is not spelled out in the 1.3 specification. Interfaces remain unique to each application server, which means you have to write a separate piece of code for each—and there is no consistent way to do that, he explained.

He said the issue is becoming increasingly important as more and more corporate developers run application servers from multiple vendors, noting that SilverStream (www.silverstream.com) recently released message-passing software that offers JNLP support.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MAKE WAY FOR WEB SERVICES

J2EE developers agree that the 1.3 spec makes significant strides in paving the way for Web services. They expect the 1.4 spec will begin to complete the work that was done with 1.3.

J2EE 1.4 will enable Web services, says Data Direct's Reed.

"The 1.4 spec will be heavily Web services-enabling," said Brian Reed, vice president of business development for Data Direct Technologies Inc., which provides data connectivity tools for J2EE and other platforms. "Better messaging and better integration found in 1.3 provide the foundation on which to overlay Web services."

Bill Cullen, vice president of engineering for messaging middleware vendor Sonic Software Corp. (www.sonicsoftware.com), said that although 1.3 lays out the messaging infrastructure for Web services, less than half of what is needed is implemented. Although he acknowledged that 1.3 offers stronger support for

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WHAT'S NEXT?

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XML, he noted that full support for the Simple Object Access Protocol (SOAP) is missing. "1.3 has no means of handling SOAP with attachments," he said. "In a big organization, you cannot manage messaging in an arbitrary way."

Also notably absent from the 1.3 specification is a standard means of handling performance management. "Right now, you are still locked into the way your vendor deploys and manages the applications," said Ralph Beck, CTO of Altaworks Corp. (www.altaworks.com), which makes performance management tools for BEA's WebLogic and IBM's WebSphere.

"Performance management is always an afterthought. Java is the front door to your business, but [what good is that] if the throughput is not there?" Beck said.

In a similar vein, Santanu Paul, CTO at content management system vendor Openpages Inc. (www.openpages.com), said that he would like to see full support for Java Authentication and Authorization Service (JAAS) implemented in the J2EE specification. That will allow Java developers to access security services that already are in place on other platforms without having to write new code.

Paul also noted the need for rule-based support in J2EE. That's especially important in the content management world, as it would allow the Java developer to automate the process of controlling which users get to see what content without having to write a great deal of custom code.

Ward Mullins, CTO of Thought Inc. (www.thoughtinc.com), a company that makes object-relational mapping tools, said he hopes that future iterations of the J2EE specification will address in a more significant way the issue of object mapping to databases. "The current spec does all this stuff that dances around the database, but it doesn't talk about how it should act underneath," he said. Applications are about data retrieval and storage—and if application servers are to deliver high performance, this issue has to be addressed, he added.

ROOM FOR INNOVATION?

All these changes—essentially standardized ways to carry out functions that are now implemented on a proprietary basis—add up to one big question: Have J2EE application servers become commodities, leaving no room for innovation? "I think they are headed in a direction where they will become more and more like operating systems," said Openpages' Paul. "The app server vendors are losing their ability to lock you in on a proprietary basis. That may not be a good thing for them, but from our point of view—we are building a content management system on the J2EE 1.3 platform—we need the spec to evolve quickly. Otherwise we will have to write our own code," he said.

SilverStream's Sheffield admitted that with the increased standardization, eventually brands among J2EE vendors will have less and less meaning. "But there will always be performance and scalability issues, as well as ease-of-use issues that differentiate one player from another," he said. "Standardization is a good thing in that it ensures a multivendor marketplace and guarantees portability across app servers."

Borland's chief technical architect, Mike Rozlog, agreed. "The benefits of standards outweighs the drawbacks of having to put up with proprietary interfaces," he said. ■

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COMING OF AGE

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ships associated with the data—say, for example, a customer—represented by the entity bean, he explained.

"In the old days, if I wanted to delete a customer from the database, I had to write the code to make sure the relationships associated with that customer were deleted, too. Now the Java platform manages this for you. When you delete the customer, you delete the relationships associated with it," said Kiger. The ability to do that saves the programmer time and effort and improves the reliability of the application and the data it manages, he said.

MAKING THE CONNECTION

For Java to make it as an enterprise development platform, it has to contend with the age-old problem of how to deal with legacy applications that house the critical business data that Java applications inevitably need to access.

"Legacy applications are not going to diminish. They are not going be rewritten. ERP [enterprise resource planning] applications and CRM [customer relationship management] applications are not going to go away," said Ralph Beck, CTO of Altaworks Corp. (www.altaworks.com), which sells Panorama, a performance management product for J2EE application servers for BEA's WebLogic and IBM's WebSphere.

To cope with that ever-present reality of legacy systems, J2EE 1.3 incorporates JCA, an API that gives programmers a set standard to write to. "What once required a proprietary solution is now standard J2EE," said Santanu Paul, CTO of Openpages Inc. (www.openpages.com).

The company's content management system, Contentware, was written some years ago as a client/server application running under Windows. Early next year, Openpages plans to ship a completely rewritten Contentware, based on the J2EE 1.3 spec. JCA was key to the company's platform decision, said Paul. "We are a content management company, and content resides in non-Java systems. JCA shields the application developer from complexity, letting you take all that proprietary code and wrap it in Java APIs that are clean and simple," he said.

Connectors are key to content management, says Openpages' Paul.

JCA is significant not just for Java programmers, but also for application vendors, noted Borland's Rozlog. "It gives the Baans, SAPs and PeopleSofts of the world a standard API to write to, enabling them to direct their enterprise customers toward Java as well." He noted that all three vendors are currently working on JCA connectors and that Borland recently announced a partnership with SAP.

JAVA GROWS UP

With Java developers reaching out and legacy vendors reaching back to Java, just how widely is the development platform being deployed? Anecdotal evidence as well as research studies suggest that in the corporate enterprise Java has moved well beyond the early adopter phase and into early maturity. Developers are realizing that Java is extremely capable, said Sonic's Cullen. "The mind share is clearly there."

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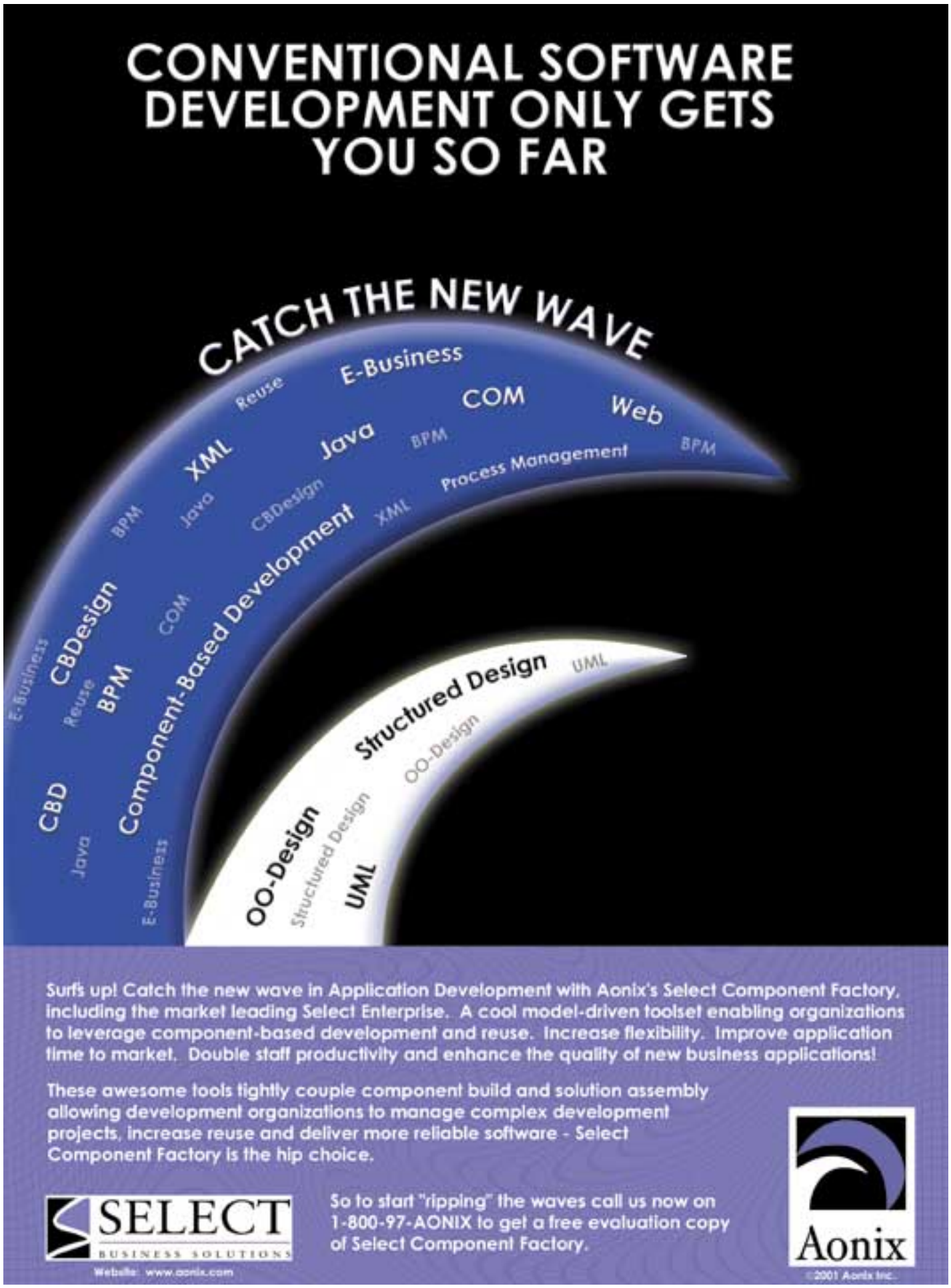
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COMING OF AGE

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"The bigger the enterprise, the more Java you find," added Data Direct's Reed. "Real enterprises are running big stuff on it."

"A huge number of companies have bitten the bullet," echoed Jonathan Weedon, chief architect for enterprise solutions for Borland. "Java has moved out of the lab and into actual production."

Java is about lower cost of ownership, says Borland's Weedon.

A study conducted by research firm Meta Group Inc. (www.metagroup.com) in September estimates that Fortune 2000 companies are deploying about 35 percent of their application development projects on the J2EE platform.

An April survey conducted by Evans Data Corp. (www.evansdata.com) found that the use of Java is rising at the expense of Visual Basic and C/C++. It predicted that by next year Java developers will outnumber those programming in C/C++ and Visual Basic combined.

THE BOTTOM LINE

Chief among the reasons why corporate developers are deploying more and more projects on Java is that Java offers a more efficient, less expensive way to develop applications. That's especially important considering the current economic downturn, when companies need to do more with less money.

"There are huge costs surrounding integration," said BEA's Kiger. But with JCA, the need for custom integration work goes away. All you have to do is build the connector that will work with a Java-compliant application, he said, noting that research firm Gartner Inc. estimates that the percentage of IT spending going to integration efforts is 35 percent.

What's more, said Openpages' Paul, is that with Java you can produce more code in less time with fewer bugs than you can with C++. "It's safer to program in and doesn't let you make as many mistakes," he said.

With 1.3, the J2EE spec has evolved to the point where all you need on your staff is a core of good Java programmers, said Paul. "If you let them loose on WebLogic, for example, they can do a lot of programming that in the early days [of Java] would have required specialized skill sets. The cost of maintaining programmers of legacy systems goes away," he said.

Java is about lower cost of ownership, said Borland's Weedon. It's not just the acquisition of the development platform, but also the cost of training and maintenance. You can bring good C++ programmers up to speed in Java in about three months, he said. "All you have to do [is get them to] throw out all the bad ideas in C++," he joked.

As J2EE continues to evolve, it is laying the foundation for a major architectural shift toward loosely coupled services, said Sonic's Cullen. As J2EE matures, it's a case of "here's another little functionality you don't have to write anymore," he said.

Altaworks' Beck said he is looking forward to the day when Java becomes boring. "When apps are deployed, running and scaling in Java, we can move onto other things," he said. "Java will just be part of the common folklore." ■

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EDITORIAL

Works in Progress

To listen to the major vendors, one would think that developers are salivating over the notion of building Web services. Look at the Web sites; read the news stories. The industry's message, repeated again and again, is that the future of computing lies in XML /SOAP/WSDL/UDDI-based Web services. If you're not already on the bandwagon, they say, you're already behind the curve.

Say, haven't we heard that particular message before, with the Internet and e-commerce? Client/server computing? Thin-client computing? Wireless? And every other new computing paradigm?

Don't worry. If you're not already writing and deploying Web services, that's just fine. Really. The tools and runtime platforms aren't complete, and too many of the standards are at version 1.0 status, indicating a lack of maturity. Yes, Web services promise tremendous benefits as cross-platform middleware. But no, there is no first-mover advantage to be gained by rushing headlong into deploying before the ink is even dry on the core specifications, and while others remain to be written.

Microsoft Corp. was the first to embrace Web services wholeheartedly, as evidenced by the company's dogged persistence in stuffing XML and SOAP into every piece of software written in Redmond, including Office XP and Windows XP. Yet, with its platform, many details remain to be worked out.

What's the security model with .NET-based Web services? How will scalability and reliability be integrated into the deployment platforms? How will Microsoft's Web services interoperate with other platforms? The .NET Framework and Visual Studio.NET are still incomplete, and major portions of Microsoft's technologies won't be ready until the middle of next year—or later.

Java's in even worse shape. Each of the mainstays of the J2EE community, from Sun to BEA to Oracle to IBM, has its proprietary implementation of Web services, including vendor-specific extensions to the J2EE specifications. Although it's tempting to embrace those extensions today, developers risk being locked into a single Java vendor's solution, making it difficult to migrate to a common Web services infrastructure later. Whether these issues will be resolved by the release of J2EE 1.4 or not remains to be seen.

Web services: They're not a panacea. They won't replace local code running on a client. They won't lessen the need for HTML-based Web pages. They won't supplant existing middleware technologies that offer more robust performance, enterprise-level security and guaranteed quality of service. They can help solve complex integration problems, and allow the federation of applications across firewalls and IT boundaries. But Web services won't do it all.

Now's the time to study Web services and experiment with the technology. Sure, deploy Web services in controlled environments if they help solve a particularly difficult integration problem, and by all means, you should begin XML-enabling your applications and data sources. But the time is not yet right to bet your business on Web services. Despite the drumbeats by the major vendors, today's Web services platforms are very much works in progress. ▮

GUEST VIEW

HIRE SOME ACRONYMS, ASAP!

Our industry is replete with acronyms, but the ones that are most important to your customers and end users are the ones that punctuate your staff's surnames like CCNP and MCSD.

There was a time in our industry when certificates were something liberal arts majors earned in night school to get an entry-level IT job. But does a piece of sheepskin barely large enough to clothe Calista Flockhart really mean all that much today? After all, isn't your staff's ability to perform their duties what really counts?

CHRIS MIKSANEK

While education and certification may not be your gauge of competence, don't for a moment underestimate its influence on end users and customers.

"Acronyms can make your organization look impressive," says Leo Devoe, G.E.D., an industry pundit I conjure up whenever I need someone to support my argument.

"Clients unfamiliar with your organization feel a lot more comfortable knowing their project is in the capable hands of an esprit de corps of MIT grads and Microsoft-certified engineers, than a motley crew of ex-tape-jockeys," says Devoe, "who worked their way up garnering whatever education they could from books like 'Master J2EE in 15 Minutes!' or free trial CBTs with only the first few lessons enabled."

Yes, today, certification is *de rigueur*. It's an accepted method of staff calibration. Managers and end users alike sleep well knowing the organization's Solaris administrator is SCSA-certified, their security manager is CISSP-certified, and the guy who works on their brakes is ASE-certified.

"You've got to get your staff lettered," implores Devoe. "Glen Sikova, MSCE W2K Network Infrastructure Administration, instills a lot more confidence than Glen 'Everything-I-learned-about-W2K-I-learned-from-Internet-FAQs' Sikova."

Credentials are more than just color-inkjet-printed certificates pinned to a burnt-orange cubicle wall or alphanumeric characters appended to an otherwise boring Croatian name. Your staff actually develops necessary skills. They learn things: how to exploit old technologies, how to exploit new technologies, how to exploit the expense account limits on mileage and parking.

And what's in it for you? After years of a small-to-nonexistent education budget, you've finally found the perfect tool to affordably make your staff think you care about their career development while at the same time making them more marketable to clients.

A 20-year IT veteran and a Harvard MBA with a 2.1 GPA walk into a bar.…

In every large organization there's usually one old COBOL programmer who'll swear certification is no substitute for experience. This living, breathing antique will argue that when he's stabbed late at night he would rather be taken to an inner-city hospital with an experienced trauma team than to the Mayo clinic—and if he's not the analogy-spewing type and really is prone to knife wounds, you'll hope he doesn't argue too loudly. But he'd be right.

Experience does count... you know that. But experience has downsides. Some put it in the same category as the popular mutual fund disclaimer "Past performance is no guarantee of future results."

Others see it as an indication that your staff's expertise lies in stale Internet-years-old technology. For example, who would want to take credit for having developed the best slide rule in the industry, or the best macros for Lotus 1-2-3? (Pop Quiz: How many of you have dropped Pascal from your resume? PL/1?)

Of course, you don't hire a suite of acronyms. But they're a factor. Credentials have an enigmatic way of making a credible impression.

Besides, it doesn't really matter if anyone understands what the acronym expands to, if it expands to anything at all. I've seen headhunters nod, equally impressed, at resumes of both Ph.D.s and SWMs.

"Consonants do something to people," Devoe says. "They have an intoxicating effect on clients: like the online sites that ask fat Web surfers if they'll accept a cookie, you know they're gonna go for it."

So, then, what of the idealistic old dog you need to present as capable of learning the newest tricks? How do you certify someone who doesn't want to make the effort?

Well, it's not a given that you need formal training. If you can open a README file, you're Windows Notepad Certified, or should be. And for the fossils on your staff who can't even manage that, well, if they can breed, they can transform an unfortunate moniker into something that engenders a measurable (albeit with a micrometer) magnitude of confidence. Can you hear it now? "Ben Schmeckpepper Sr.," your clients will say. "That's someone who sounds like he knows what he's doing!"

Affix a suffix and CYA with your CIO or VP of MIS PDQ.

To end users and customers with no other measure, perception of your organization's competency is your competitive edge. And that's what you get with a stream of acronyms trailing your staff's names.

Users will pay a premium for quality and the confidence it brings to the table.

"But for your part, you need to help promote that image," Devoe says. "To gain industry credibility, you must reinvest in education and certification. Most shops won't."

"Formal training is one of the first things that seem to get cut whenever times are tough," he continues. "And to clients, a company that cuts back on employee development probably cuts back on other important things, like effective internal processes, adequate development resources or a professional mime to entertain at the company picnic."

Maybe that's the real question: How do your staff's credentials contribute to a positive perception of your organization? ▮

Chris Miksanek has been in software development for more than 15 years.

AND ANOTHER THING...

BUSINESS AS UNUSUAL

"How's business?" That's a question I often ask of software development vendors. And business, two months after the big events of early September, is…okay.

Very few vendors I have spoken with in the past month are panicked by the disappearing dot-coms, or are drastically affected, other than spiritually, by the events of Sept. 11. If the vendors are reporting accurately, their customers are continuing with projects in process. Software is still too critical to ignore.

Certainly, vendors serving the defense industry and the government agencies and contractors that support it are expecting a very busy fall and a decent 2002. On the other hand, vendors selling expensive tools and platforms intended for brand-new IT projects are having harder times, since such projects are easier to put on the back burner during a recession.

Trade show and conference attendance is down, way down this year, and it's easy to see why. IT budgets are under greater scrutiny, and nowhere are the short-term cutbacks easier than in training and travel. The hardest hit are small niche and me-too events, like any of the several dozen XML or Linux shows.

But even the well-established Embedded Systems Conference and JavaOne experienced reduced attendance as companies sent one or two people instead of the whole team. So what to make of the landscape in the wake of Sept. 11?

TED BAHR

SYS-CON's new JavaEdge show, held in New York City two weeks after the disaster, was well attended. Vendors called me asking if SD Times was still going (yes), but indicated that they were reluctant to send people on a plane to Manhattan. Still, JavaEdge, buoyed by lowered expectations and a massive marketing effort, was successful and will probably grow in the future.

In mid-October, I visited two shows that are mainstays, Gartner's IT Expo and Fawcette's VBITS/VSLive conference, both in Orlando, Fla.

These two events were well attended, mainly because each had successfully evolved into an annual gathering place for the movers and shakers in their respective industries. Gartner's IT Expo, aimed at CIOs, was professional and well managed, but it seemed distant and lacked energy.

By contrast, Fawcette's VSLive looked packed. Moving around the exhibit floor was difficult due to the crowds, and the huge classrooms were filled with rapt attendees. Exhibitors claimed that attendance was lower than expected, but the attendees' enthusiasm was evident.

This seemed strange to me. IT Expo, which catered to the high-level information-technology executive, certainly had more access to people with the substantial budget required to attend the show. But why was VSLive, an event aimed at coders, not managers, so well attended when it's likely that many of the programmers' bosses—in the midst of slashing their training and travel budgets—might have been reluctant to let them go?

VSLive, and the VBITS conference it evolved from, has always been heavy on instruction, with many classes on the bits-and-bytes solutions to technical problems. But that's not why managers really sent their programmers to the show. Rather, they all understood that programmers need to connect with their peers and colleagues.

Oh sure, a lot of corporate programmers made a compelling business case for needing to track the emergence of .NET, but that wasn't what was truly going on. They—and may I suggest "we"?—require camaraderie: to see other people, to share, to feel, to be again, to somehow try to figure out what the New World means with its myriad horrors and uncertainty.

It's business, of course. Just business.

Business as unusual. ▮

Ted Bahr is publisher of SD Times.

A MATTER OF SECURITY

We're at war, even though it's a war that seems directed by Stanley Kubrick. A bearded multimillionaire zealot living in a cave several thousand miles away allegedly is terrorizing our nation by exploiting the airlines and the U.S. Postal Service. Plus, we still have to deal with the usual hacking, cracking and virus-writing misanthropes; only now you can bet that these yokels are feeling inspired by the chance to get some real media attention amidst the terror frenzy.

And in the middle of all this carnage, Microsoft is about to release yet another operating system. I can't imagine that IT security officers at any company are playing a lot of golf right now: Security is now the darling job for IT staff, and it will probably remain that way for some time to come. But while some of the new urgency surrounding security can be chalked up to sudden hype, the need and the timing are definitely real.

As such, it really makes little sense for security to be made the sole responsibility of a subteam on the IT staff. Every branch of IT should be concerned with security and do what it can to aid the effort—especially developers, and even more especially those developers writing for Microsoft platforms.

What follows is a series of security checklists and tips that developers can use to ensure that their code as well as the platform it runs upon are as secure as they can be. Developers may not be able to implement all these suggestions, but they can at least use them to prompt IT security staff to head in the right direction. Let's start this series off with a look at tips for securing Windows 2000 Server, the backbone of most ASP and .NET applications.

WINDOWS WATCH

OLIVER RIST

When developing for Windows 2000 Server, your development team should adopt its own security checklist as part of its programming standards. This list should be passed to your security team for approval and follow-through. The document should cover everything from how developers want the servers to be configured, to minimal patch and release numbers and even back-up schedules.

By the way, your product manager should be the one actually writing the security policy, but other developers should be involved too, with consultation from your company's in-house network and IT security experts or consultants.

It's better that this process get started prior to the development of new applications, since the knee-jerk reaction of many pressured security officers is to use their newfound popularity as leverage to issue wide-spanning decrees. It's far better to be working with the security team rather than under it.

Next, check out your development and test servers. Look not only for basic hardening techniques—aggressive password strategy, disabled guest and renamed admin accounts, NTFS rather than FAT32 and so on—but also for advanced techniques that Windows 2000 allows administrators to employ. Enabling EFS (the Encrypting File System), for example. Encrypting the Temp folder and making sure it's cleaned out after use. Clearing the Pagefile cache after use is another good move. So is disabling Dump File creation.

Finally, make it your business to at least stay somewhat up to date on Microsoft security issues and fixes. Sure, that's the security department's job, but developers need to be in the loop to avoid nasty surprises and pitfalls.

Third parties are a good source for security information, like the Top 20 list maintained by the SANS Institute at www.sans.org/top20.htm. Microsoft is a good source as well; check www.microsoft.com for major headlines or buzz over to ftp.microsoft.com for the latest downloadable patches, like the recently released Internet Explorer patch that deals with dotless IP addresses, third-party sites and Telnet.

We're just scratching the surface of Windows 2000 Server security here, but the idea is to provide motivation for developers to start worrying about security as much as they do about deadlines.

I'll hit Windows XP and .NET security in future columns, so feel free to e-mail me at orist@mindspring.com with your own suggestions.

Be careful out there. ▮

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INTELLIGENCE AT INTEL

For the past several months, I have been contributing to DevX.com's new Intel processor portal site, analyzing the technologies in Intel's recent processors: the Pentium 4 and the Itanium. (To clarify and offer full disclosure, these reports are paid for by DevX.com, which in turn bills Intel for the portal as a whole.) So the DevX.com pieces are intended for programmers and written by analysts who have no specific interest in promoting Intel other than by describing the company's technology.

The Pentium 4 continues Intel's paradoxical position: It has delivered so much CPU power to desktops that users have little reason to upgrade—their current processors deliver most everything they need. The traditional catalyst for CPU upgrades has been a new release of Windows. But Windows XP lacks the compelling features to induce upgrades in an era of tight finances. As a result, processor upgrades will be slow.

However, what impresses me most about Intel these days is its technological advances outside of the Pentium 4. This year, in particular, has been remarkable for innovations announced and shipped.

First, Itanium. The signal event was shipment of the Itanium processor. Although it did not immediately create shock waves, the chip ushered in both a completely new processor architecture (EPIC) and 64-bit computing in a non-RISC design.

EPIC may seem like no big deal because so few systems run it. But with each release, expect the technology to improve and performance to catch up and surpass comparable SPARC chips. Its design, which has the compiler group instructions in bundles that are executable in one cycle, is so sensible that by all rights it should surpass all competing architectures that execute instructions sequentially (even though these architectures do provide some parallelization too). And as this happens, EPIC will begin showing up in increasing numbers of servers.

MIDDLEWARE WATCH

ANDREW BINSTOCK

It's important to note that the Itanium is not simply a new line of processors, but a whole different way of processing. EPIC's use of very long instruction words (VLIW) was previously implemented by Multiflow and chips from other vendors, such as Texas Instruments' TMS320C62. However, VLIW at the desktop and server on a large scale has not been done by anyone. Nor has it been done Intel's way—retaining binary compatibility with pre-existing families of code.

Then, HyperThreading. Intel has announced it will ship chips that use simultaneous multithreading in 2003. This technology, called HyperThreading, enables chips to execute two processing threads on one execution pipeline. Pipelines are the series of steps used in executing instructions. These include, among others, fetching the instructions, decoding them, scheduling them, executing them and reassembling the results. (These steps may look odd, but scheduling and reassembly are needed for instructions that are executed out of order to enable faster processing.) Each step has discrete processor logic assigned to it. During execution of some instructions, the hardware logic sits idle and can be used by instructions on other threads. This means one processor can now handle two threads simultaneously. RISC vendors have announced similar technology, and they will ship it around the same time as Intel. In terms of processor innovations, Intel has now pulled up to, if not ahead of, RISC vendors.

Then, Next-Generation I/O. Intel also is actively involved in developing the new standard for PCI buses. The PCI Special Interest Group at www.pcisig.com is the "trustee" of the PCI standard, if you will. The group has settled on Intel's 3GIO proposed standard as the replacement for current PCI. Intel previously was instrumental in developing PCI, AGP and USB, among other standards, for high-speed data movement among peripherals. 3GIO, which should begin shipping in products in 2003, is slated to reach 2.5Gbps in its first release.

Moving Forward. With this much innovation—most of it oriented toward higher data throughput—Intel wants to position itself as the technology of choice for servers. The company realizes that the PC market is a thin-profit market with not much growth slated in the near future. So it wants to break decisively into the server market. To do this, Intel must convince IT shops that its technology is not just enhanced PC wizardry. The need to communicate this point is the goal behind the current "macroprocessing" advertising campaign. (The choice of "macroprocessing" as the catch phrase will seem incongruous to those programmers who know what macro processing really is.)

Intel has met its technical challenges with remarkable ability. Now it needs to succeed at this more difficult marketing challenge. ■

Andrew Binstock is the principal analyst at Pacific Data Works LLC.

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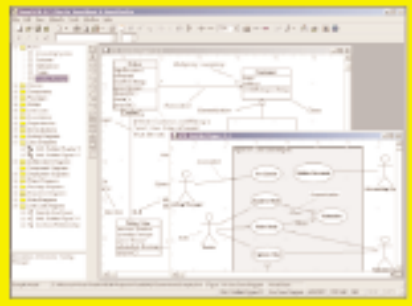

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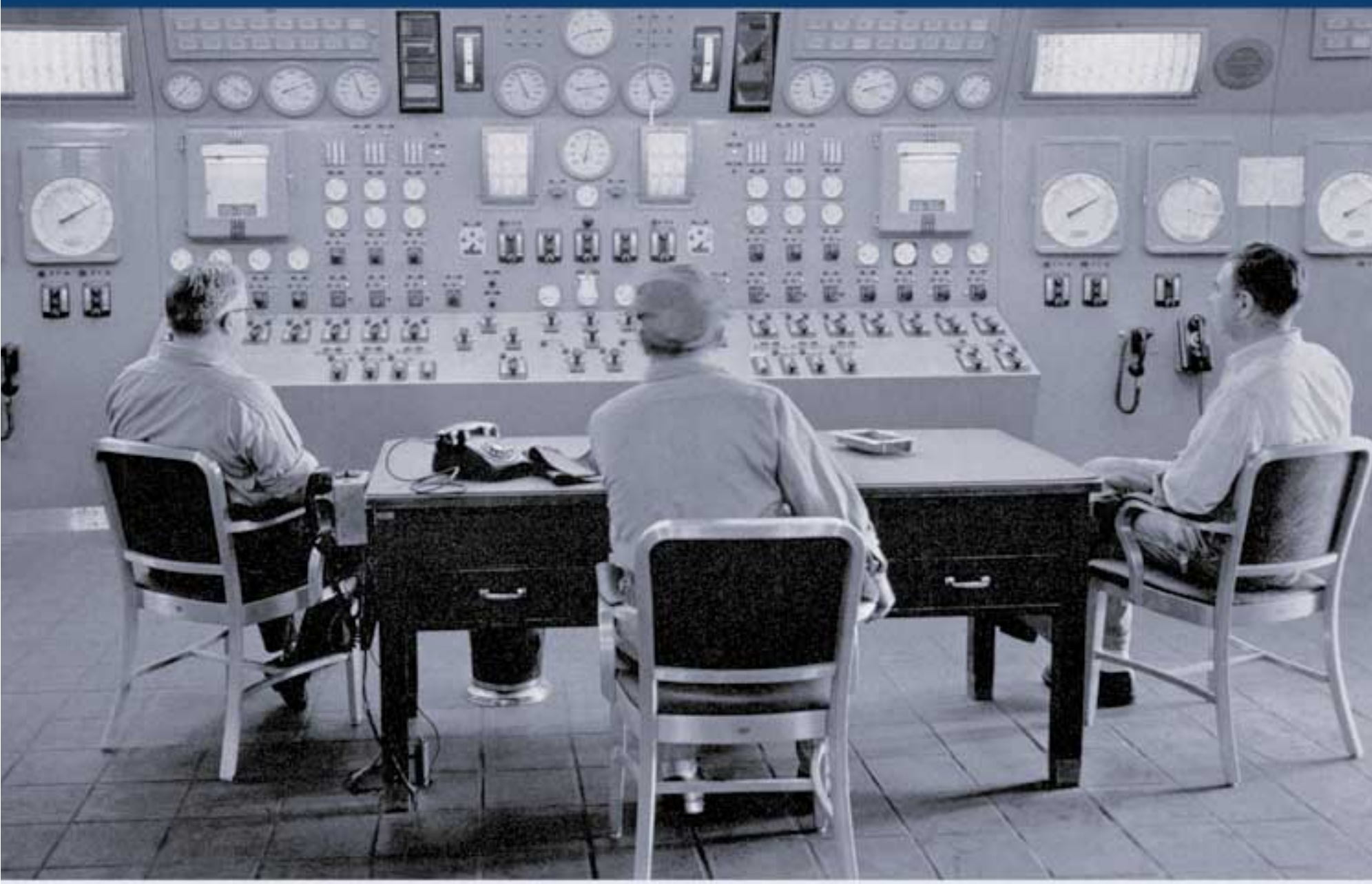

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VISUAL J#.NET: IS MICROSOFT KIDDING?

Start with the name: Visual J#.NET. Even after decades of seeing oddball technology names, this one looks more like a typo than any other name I've ever seen. It's an awkward name for Microsoft's latest awkward attempt to get Java shops back into the Microsoft fold. I just don't think it's going to work.

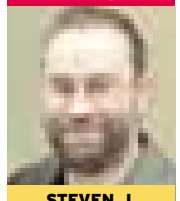
You have to admire the Redmond boys' chutzpah. Since the courts ruled that Microsoft violated its agreement with Sun when it tried to extend Java with J++, Microsoft has opted to drop Java from Internet Explorer, Windows XP and forthcoming operating systems rather than be stuck with older Java versions or making a new deal with Sun. Despite Microsoft's pooh-poohing Java as being a second-tier language that's unsuitable for serious applications, J# shows that the company still wants Java, or Java programmers anyway, to live on its platforms.

Technically, J# will enable your Java programmers to use Java to write .NET specific code when used with Visual Studio.NET. You can't use it to build standard Java applications. In short, if your people used it to create programs, they'd be using Java and Java syntax, but the resulting .NET Common Language Runtime code won't run on JVMs. This completely defeats Java's cross-platform utility. Even Microsoft project manager Tony Goodhew admits that J# isn't a true Java tool.

Which leaves me wondering, what is it then? Microsoft does claim that Visual J#.NET will make it easy to port Java applications, particularly those written for Visual J++, to .NET. But since the only version of the product publicly available is an early beta, it's hard to test how well it will do at its assigned job.

It will fall short in some areas. Like all Microsoft products, J# is based on older versions of Java and officially supports only Java 1.1.4. So forget about porting J2EE-compliant applications with J# to .NET.

JAVA WATCH



STEVEN J. VAUGHAN-NICHOLS

According to beta tester reports and Microsoft's own internal documentation, J# also falls short of full Java compliance in other areas. To cite one case, Visual J#.NET's Binary Converter Tool can't support the conversion of .class files containing @com attributes (java-language/COM binaries). It looks like it works—the conversion will succeed without complaint—but the binary won't work.

There are other quirks, too. For example, in the beta, you can't have a semicolon after a curly brace block. It's the kind of little change that used to drive me berserk as a programmer in my days of working with the different *x*Base languages, since it's just these kinds of small but vital differences in very similar languages that cause multilanguage developers to make the same mistakes again and again and again.

If your coders are used to Java compilers, they'll also be upset to see that Java syntax that would earn you a warning in a typical Java compiler wins you an error in J#. And, that's no win at all.

Oddly enough, even old J++ code has problems in J#. The biggest of these is that J++ projects hosting ActiveX controls cannot be upgraded to J#. You can open them, but they won't compile. So, even if Visual J++ is your Java IDE of choice, you'll have trouble translating your programs to .NET.

While all these problems may still be solved—this is a beta after all—Java is an evolving language, and the gap between modern Java and J# will continue to grow wider. Thus, while J# may be used successfully to port older Java applications to .NET, I see only problems ahead for developers trying to translate newer Java programs.

In any case, how much of a demand is there going to be for J# anyway? After talking with operating-system analysts, it seems that even cutting-edge Microsoft shops are just now completing the switchover from Windows NT servers to Windows 2000. Lest we forget, Microsoft has recently backed off on closing down MCSE Windows NT certification, which is its admission that lots of shops are still using its older software. Add in the state of the economy, and I don't foresee any overwhelming demand for .NET servers when they do become available next year. So, in turn, I don't see a market for J# appearing until mid-2003 at the earliest.

Gartner analyst Mark Driver, in his "Microsoft's J#.NET Will Be Ignored" report, says, "This new Microsoft language might attract large companies that must support both .NET and Java, but they will find the syntax of the language to be of only minor long-term benefit. In fact, Visual J#.NET will likely have lasting appeal only to a small subset of mainstream Java developers and will likely attract no more than 5 percent of the total Java development market through to 2004."

I agree. I can't see J# being that much use for programming shops that work either in Java or are developing for .NET. It's not Java enough to make Java programmers happy, and what C# programmer is going to want to go back to Java?

If you really want to program for .NET and don't think Microsoft will ever let contemporary Java back into its operating systems, I suggest you look into Microsoft's C#. J# isn't a road into .NET; it's a dead end. ▮

Steven J. Vaughan-Nichols has been writing about technology for more than 15 years and also has worked as a programmer for NASA and the Dept. of Defense.

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Look for the CVC Quality Seal.

For more information on the CVC quality certification process, including details on the testing process and procedure, visit the CVC web site at:

http://www.components.org/quality.asp

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The general membership of the CVC consists of companies that develop and market commercial software components and/or development tool products. CVC members include leading vendors in the component marketplace such as

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Bennet-Tec Information Systems, Inc.,
BestofWare,
Bunka Orient Corporation,
ComponentOne,
Compuware NuMega,
CORDA Technologies,
DART Communications,
Data Dynamics, Ltd.,
DBI Technologies,
Desaware, Inc.,
Distinct Corporation,
FarPoint Technologies,
FMS, Inc.,
Infragistics, Inc.,
LEAD Technologies, Inc.,
Sax Software,
SoftArtisans,
VisualSoft Technologies Limited.

WINDOWS XP IS HERE. NOW WHAT?

Last month, Microsoft dropped an unprecedented amount of hype on New York City, all as part of the process of delivering Windows XP. This long-awaited product that unifies the Windows line arrived more or less on schedule, although new computers loaded with the product had been making their way into the marketplace a few weeks before that. Will the delivery of Windows XP have any material impact on your Web development efforts? It shouldn't, but it does.

Probably the most immediate impact is that you can no longer assume that visitors to your sites will have the ability to run client-side Java apps. Therefore, you may have to find a way to display the information on your site without client-side Java, perhaps by creating alternate pages. This will, of course, reduce the functionality of your pages, and it will cause you extra work, but as the number of Windows XP users grows, it may become necessary.

Sun has announced plans to provide Java support for Windows XP, but as of press time, that hasn't appeared. Still, it would pay big dividends to check http://java.sun.com on a frequent basis.

Slightly less immediate, but perhaps no less important, are changes that Microsoft made to its networking software. The first is the support for raw sockets in Windows XP, and the second is the inclusion of a personal firewall as a standard part of the Windows client.

Windows XP's support for raw sockets is an attempt at backward compatibility with TCP/IP. Other operating systems also support raw sockets, but only for users who have root or administrator rights. With Windows XP, *any* user, with any level of rights, can use raw sockets. What this means is that malicious code such as worms and Trojan horses can locate computers with raw sockets enabled, and co-opt them as a part of a denial-of-service attack. You may need to spend extra development time dealing with this possibility so that you can protect your corporate sites against such an attack.

WEB WATCH

WAYNE RASH

On the other end of the scale, Microsoft has introduced a personal firewall. This shouldn't affect you at all, but it will anyway. The reason? Firewalls in the hands of unskilled users can cause trouble for anyone they come in contact with. Users who don't have them set up properly can be happily sending viruses or other malicious code around, thinking that they're protected. Or they can find themselves unable to perform functions they once could perform, or access Web sites that used to work just fine with Windows 98/Me/2000.

While the problem with firewalls is much more likely to crop up on internal portals and internal Web applications, that only makes them more likely to cause headaches. Your team will start getting complaints from users who can't use the supply chain software or the sales support applications, and they'll blame your team for "changing" the site.

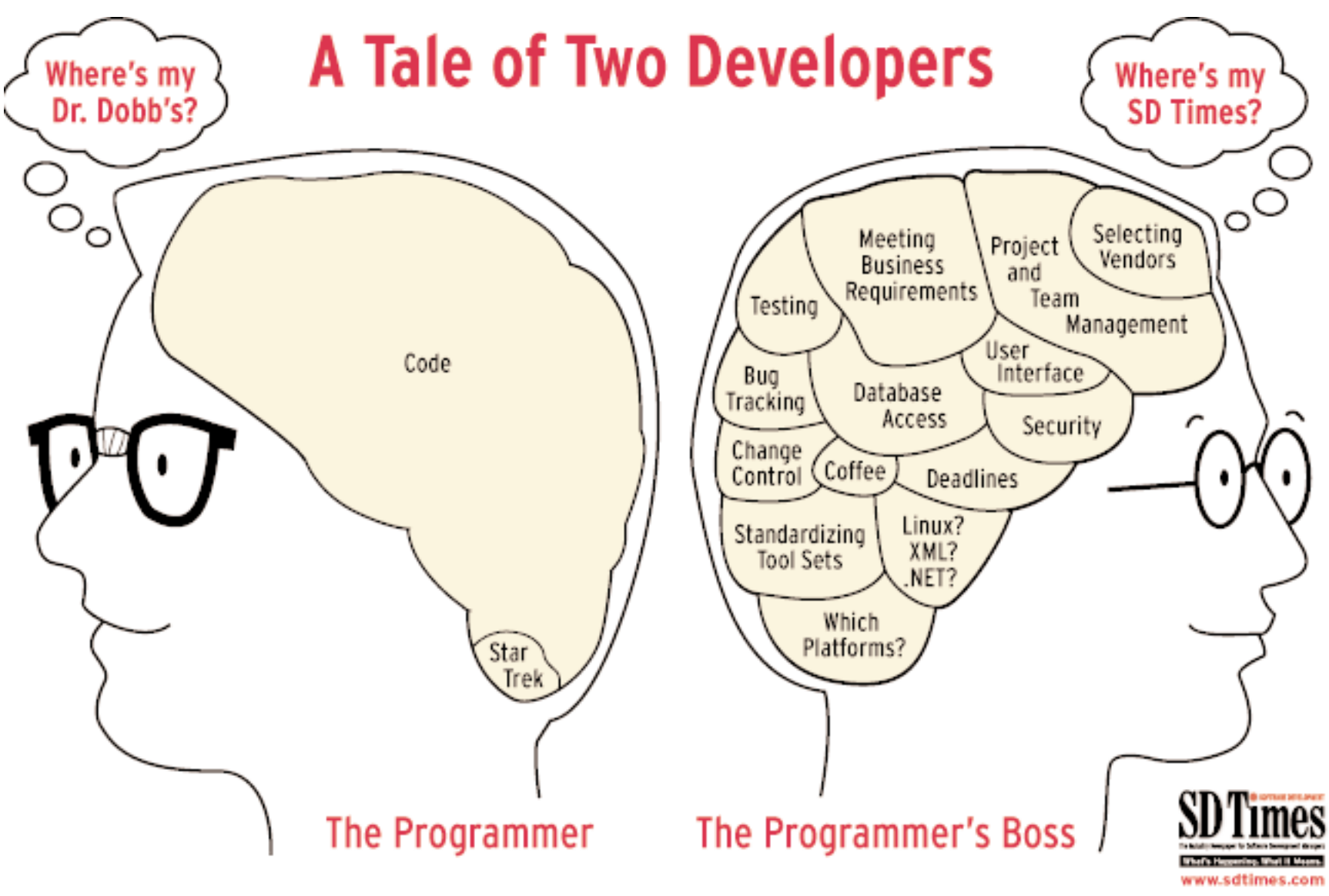
Unfortunately, your networking and end-user support departments may be powerless to help. Even if they set up new computers as they arrive, they may make mistakes, or users may fiddle with the setting. You know you'll be the one who gets the phone calls and the blame when some salesperson working out of his home office suddenly can't find out what his commissions are this month, and calls the vice president of sales.

And finally, you'll start hearing from users who want changes to the way you've designed your corporate site, now that they have Windows XP. There's no question that Windows XP has a very nice user interface; it morphs to reflect usage patterns, it's intuitive, and it's attractive. That's the good news; the bad news is that Windows XP may make your corporate Web site seem dowdy in comparison. You know what's going to happen when the CTO gets a new laptop with Windows XP installed. You might as well start thinking about a redesign now, so when the phone call comes, and it will, you can be ready.

The release of an updated client operating system shouldn't affect the way you handle Web development, but it does. And it will affect you in ways that you least expect. So take your vacation now, while you still can, and get your friends in the end-user support department to let you know when the CTO orders his new computer.

And speaking of friends…please join me on a new SD Times discussion list focusing on the challenges and technologies involved in modern enterprise Web development. To join, send an e-mail to sdtimesdev-subscribe @yahoogroups.com. ▮

Wayne Rash is a technology journalist and consultant.



SUBSCRIBING TO BELIEF IN COMPONENTS

It is flat-out tough to make a living selling software components priced at a few hundred dollars. First off, you have to sell an awful lot of units to fuel not only test and development, but also the requisite marketing budget. If you're proactive about sales, you'll also need to hire, train and pay a sales force.

Then, once you get a customer, you have to continue to pitch him not only new components but also underwhelming enhancements in dot releases that he more than likely can do just fine without, thank you very much. Meanwhile, your competitors are beating on the same doors, changing the spiel just enough to cut into your hard-fought market share.

INDUSTRY WATCH

DAVID RUBINSTEIN

And it's not as if, as the year's end approaches, you can salvage your year the way "enterprise solution providers" can with one installation valued at several hundred thousand dollars. Not with chart and grid controls driving your bottom line.

Merger and acquisition, a tried-and-true formula for growing companies, certainly is no stranger to the component arena. In the past year alone, albeit when the economy was more vibrant, there were two big consolidations: Infragistics was created by adding Sheridan Software Systems Inc. to ProtoView Development Corp. in January, and ComponentOne was formed in July with the merger of Apex Software Corp. and VideoSoft. Both companies were able to expand their product offerings and show growth while eliminating redundancies in sales and administration. Last month, in fact, ComponentOne agreed to acquire the Dot-To-Help 2000 authoring tool from WexTech Systems Inc., getting not only an authoring tool that focuses more on the end user than ComponentOne's own components, but also a large customer base to which to sell its other products.

Still, according to Gustavo Edelsteyn, managing director of ComponentOne's West Coast office, ComponentOne needed to take a different approach to retaining its customers, while restoring sanity to its product development cycles. It has decided to follow a subscription model, under which it will license its entire product line under the name ComponentOne Studio. Every quarter, the company will either release updates or introduce new products into the suite.

The belief, said Edelsteyn, is that if you can get your tools out into the market, they eventually will be used. Someone interested only in a tree tool now might need a charting component later, and if he already has yours in a prelicensed product suite, the odds are good he will use it. The other side of that coin is that some customers would pay more now for two or three components than it would cost them to subscribe to the whole component product line. A subscription costs $399—the cost of one component—and annual renewals cost $299.

"We were competing with so many companies on so many fronts, we wanted to establish a closer relationship with our customers," said Edelsteyn. "They won't have to wait for 50 features in a huge version update."

Perhaps more daunting than the competition, though, is the fact that enterprise developers have been slow to buy into the "build versus buy" argument, and are hand-coding rather than assembling applications. Sunny Wong, managing director of ComponentOne's East Coast operations, admitted he thought his company, and component vendors as a whole, would have made greater inroads by now.

Hoisting the mantle of component-based development is the Component Vendor Consortium (CVC), into which members pay dues to cover the costs of proselytization. The message: Only about 15 percent of Visual Basic and Visual C++ developers use components, and if that number can be raised to even 30 percent, business will double.

ComponentOne isn't alone in preaching the component gospel: Wong also credits online vendor ComponentSource for getting the message out, but said ComponentSource is making available pieces of higher-end business functionality as reusable objects, while the products sold by ComponentOne are much more generic in nature. Wong said the company will be happy to stand and fight alongside any company that can help break down the barriers to component-based development.

To help in the fight, the CVC asked Microsoft for money. "We have approached a lot of people to support the effort," Wong said, adding that Microsoft has "very good programs" for third-party vendors. Also, the consortium has been able to convince media companies, including this one, to carry advertisements for the organization.

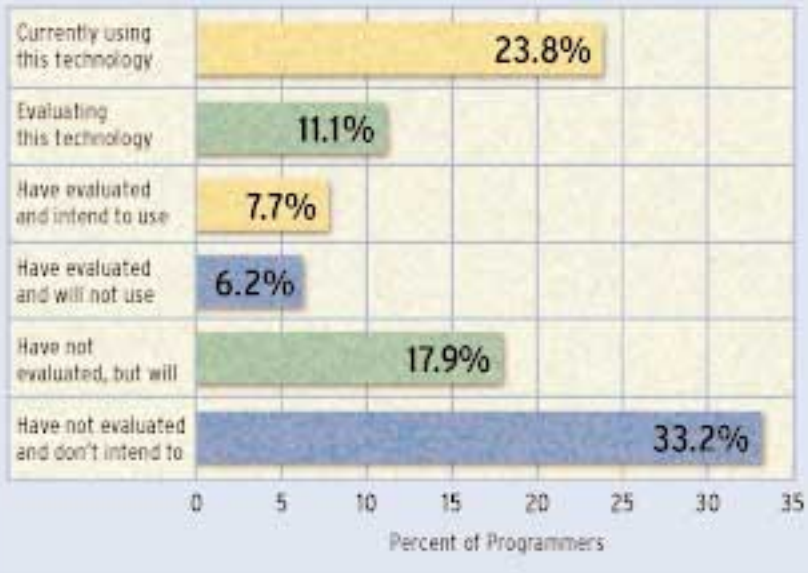
Wong said his perception is that development projects are continuing, although not at as rapid a pace as a year or two ago. This, too, he blamed on the economic downturn and a resultant cutback in IT spending. The biggest impact, he said, is on new vendors coming into the component market. "It's more expensive to advertise, so it's harder for the one-person companies to get into the market," he said.

It's just flat-out tough to sell components for a few hundred dollars and make a go of it. ▮

David Rubinstein is executive editor of SD Times.

What Is the Status of J2EE at Your Company?

EVANS DATA WATCH



Sun's Java 2 Enterprise Edition was launched in December 1999, but nearly two years after its official debut, about one-third (33.2%) of all developers surveyed this fall say not only that they haven't evaluated the technology, but also that they don't intend to do so. Another 6.2 percent say that they've evaluated J2EE, but don't plan to use it.

The survey shows that nearly another one-third of developers are firmly in the J2EE camp, as 23.8% report that they are already using the technology, and 7.7% say that they have evaluated J2EE and intend to use it.

Sitting on the fence are the 11.1 percent of developers who are currently evaluating the technology, and the 17.9 percent who say that they intend to evaluate it in the future.

Source: North American Developer Survey, Fall 2001, Evans Data Corp.

www.evansdata.com

BUSINESS BRIEFS

IBM Corp. will spend $129 million to acquire **CrossWorlds Software Inc.**, creator of a business integration management system, to strengthen its middleware business, subject to approval of CrossWorlds shareholders. As reported in SD Times on July 1, CrossWorlds has developed its management system of modules and tools that take connectivity from a point-to-point paradigm to a hub-and-spoke model. CrossWorlds' software has been integrated with IBM's MQSeries and supports the WebSphere application server. IBM plans to absorb CrossWorlds' 350 employees . . . **Embarcadero Technologies Inc.** and **Aztec Software Inc.** have formed a joint venture to create applications designed to enhance application performance while easing administration of those applications' underlying databases. The agreement extends a two-year relationship between the companies for the development of advanced database tools . . . Shareholders of **Micrografx Inc.** have approved the sale of the company to **Corel Corp.** The sale will result in the elimination of 200 positions due to overlap, mostly from the Micrografx staff. Micrografx executives Gary Klembara, vice president of sales, and Amanda Bedborough, vice president of Europe, Middle East and Africa operations, will assume the same positions with Corel . . . Portal provider **Viador Inc.** has been delisted from the Nasdaq market effective Oct. 31. The company had appointed Nate Cammack as chief financial officer prior to the action by Nasdaq. ▮

CALENDAR OF EVENTS

XML on Wall Street — Nov. 20
New York
LIGHTHOUSE PARTNERS INC. & FLAGG MANAGEMENT INC.
www.xmlonwallstreet.com

Windows Embedded Developers Conference — Nov. 27–30
Las Vegas
MICROSOFT CORP.
www.microsoft.com/windows/embedded/devcon

XML Conference & Exposition 2001 — Dec. 9–14
Orlando, Fla.
IDEALLIANCE INC.
www.gca.org/attend/2001_conferences/xml_2001

WindForum 2001 — Dec. 10–11
Santa Clara, Calif.
WIND RIVER SYSTEMS INC.
www.windforum.com

MCP TechMentor Summit on Active Directory — Dec. 10–13
Philadelphia
101 COMMUNICATIONS LLC
www.techmentorsummit.com

eBusiness Conference and Expo — Dec. 11–13
New York
CMP MEDIA LLC
CANCELED
www.kingbird.com/ebusiness

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